

A QUALITATIVE DESCRIPTION OF PREGNANCY RELATED SOCIAL SUPPORT
EXPERIENCES OF LOW INCOME MOTHERS WITH LOW BIRTH WEIGHT BABIES

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Submitted to the graduate degree program in Nursing and the Graduate Faculty of the University
of Kansas in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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Date approved: 05/06/2016

Abstract

Low birth weight (LBW) is a significant health problem in the United States leading to infant mortality and morbidity. Observational and epidemiological studies reveal that social support is associated with decreased psychological distress in pregnant women and reduces the risk of adverse pregnancy outcome. The current literature lacks research regarding the perceived social support of pregnant women in relation to birth weight from a qualitative perspective. The purpose of this qualitative research study was to examine the perceptions and experiences of social support during pregnancy among low-income women who had recently given birth to a LBW infant.

The research questions explored were: 1) How do mothers describe their perception of social support during their recent pregnancy? 2) What were mothers' experiences of social support during their recent pregnancy? A qualitative descriptive design was used to explore mothers' social support experiences during pregnancy. The sample consisted of 15 mothers who had given birth to a LBW infant within the last 9 months from the five urban and rural WIC clinics in the Midwest United States and a University affiliated neonatal medical home. Semi-structured interviews were used to collect data.

Three themes emerged from inductive data analysis: 1) Mother's experience of pregnancy and perceived social support; 2) Multiple challenges faced by mothers during pregnancy; and 3) Availability of essential supports for mothers during pregnancy. Pregnancy was perceived as a joyous experience by the mothers. The father of the baby (FOB) and female relatives were identified as major sources of support during pregnancy. Women faced multiple challenges during their pregnancy and social support from family, friends, health care providers and other significant people helped them to cope with these challenges. The majority of the

women expressed a desire to obtain social support from family, friends and other significant people in their life. Social support interventions should be tailored to meet the individualized needs of pregnant women. Health care providers should incorporate practice approaches that focus on identifying and improving the social support of pregnant women with emphasis on marginalized or vulnerable populations.

Acknowledgments

I am grateful to God Almighty for without His grace and blessings, this study would not have been possible. I would like to express my sincere gratitude to all the women who participated in the study. It was an honor to learn your stories during an important period of your life time. You have contributed significantly towards a positive change.

Dr. Karen Wambach, thank you for guiding me through my entire program. I have benefited greatly from your support, mentorship, guidance, excellent knowledge and patience. Your support and direction helped me to develop as a researcher and provided me with confidence and motivation. I could not have imagined a better advisor and mentor. Dr. Elaine Domian, I highly value your expert guidance and mentorship through all stages of my dissertation process. I learned the art and beauty of qualitative research from you. I appreciate your feedback and expertise at critical junctures of this process. Dr. Moya Peterson, Dr. Kelli Kramer-Jackman and Dr. Jo Wick, I am incredibly blessed to have mentors like you and sincerely appreciate your guidance and support.

I am indebted to all the directors, dietitians and support staff of the WIC clinics and neonatal medical home for your support in recruiting the participants for the study. I would like to thank Glenda Grover for your assistance with transcription of the interviews. I would like to thank University of Kansas Endowment Association who provided funding for this research through the Crighton Award. It was a great privilege and honor to receive this award. My colleagues and friends at Kansas City Hospitalists and Lee's Summit Medical Center, thank you for your words of encouragement and support.

I would like to thank my church family St Gregorios Orthodox Church of Kansas City for your prayers and spiritual support. My home college, Manipal College of Nursing friends and faculty; thank you for your prayers for my success. My dear friends Camille Hertz and Susan Jacob, thank you for your prayers and encouraging words especially when I was stressed about school. Friends like you are invaluable. Special thanks to our friend Kenny Glasco for your constant support. My parents C V Mathew and Elzikutty George, sisters and in-laws, your love, prayers and support provided me with strength and courage to achieve my career goals.

Finally, and most importantly, to my dear family, your love and sacrifice are the reasons for my success. My beautiful kids Carolyn, Angeline and Jaiden, I cannot tell you how much I love you. You behaved as the most patient kids ever. I am very proud of you all, this success is yours. To my beloved husband, Joji Eapen, a thank you from the bottom of my heart for your trust and confidence in me. You made major sacrifices for me. I can only imagine what you have been through these long years of my studying. We have come through such a long journey. Thank you for your encouragement and support. Just want to tell you that I love you now and forever.

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Chapter One: Background

Problem and Significance

Low birth weight (LBW), defined as birth weight of less than 2500 grams (gms) at birth regardless of gestational age, is a significant health problem in the United States leading to infant mortality and morbidity (Centers for Disease Prevention and Control [CDC], 2014). Despite government efforts to improve this birth outcome, LBW still remains a major public health problem (CDC, 2012). Infant mortality rates remain higher than for most other developed countries (MacDorman, Mathews, Mohangoo, & Zeitlin, 2014). Disorders related to short gestation and low birth weight were the second leading cause of infant mortality in the United States and accounted for 16.9% of total infant deaths in 2010 (Murphy, Xu & Kochanek, 2013). Infant mortality from LBW is a greater tragedy when the death was due to a preventable LBW (American Public Health Association [APHA], 2014). Low birth weight infants account for half of the infant hospitalizations costs in the United States (Russell et al., 2007). In 2003, hospital charges for in-patients stays from LBW averaged \$44,000 in comparison to hospital charges averaging \$1,700 for newborn stays without complications (APHA, 2014).

LBW infants are at increased risk of health problems ranging from neurodevelopmental disabilities to respiratory disorders (CDC, 2012). LBW can occur among pre-term births and full-term births (CDC, 2011). Pre-term birth refers to delivery before 37 weeks of gestation. Full term low birth weight infant refers to infants born after 37 weeks of gestation weighing less than 2500 gm (CDC, 2011). Almost half of pre-term births are also LBW babies (Ohio Department of Health, 2014). After the 2007 peak of 10.44%, the pre-term birth rate has steadily declined (Hamilton, Martin, Osterman, Curtin & Mathews, 2015). In 2012, the pre-term birth rate was 9.76% and declined to 9.62% in 2013 and 9.57% in 2014 (Hamilton et al., 2015). The

United States (U.S.) pre-term birth rate was 40% higher than in England and Wales, and 69% to 75% higher than in Finland, Ireland and Sweden (MacDorman et al., 2014). Nearly half a million premature babies are born in the United States each year (CDC, 2014). Reducing the pre-term birth rate is of public health importance as the risk of adverse pregnancy outcome decreases with increasing gestational age (Martin et al., 2013).

Premature birth and small for gestational age are the two main contributors to LBW (March of Dimes, 2014). Small for gestational age refers to infants with birth weights below the 10th percentile for age and gender (Strayer & Rubin, 2012). Higher infant mortality rate have been found in both pre-term and term small for gestational age infants (Grisaru-Granovsky et al., 2012). Infants born with a birth weight between the 3rd and 10th percentile have a higher risk of mortality than infants born between 25th and 50th percentile (Grisaru-Granovsky et al., 2012).

Following the increase of nearly 20% from 1990 to 2006, the percentage of low birth weight has slowly declined (Martin et al., 2013). In 2006, 8.3% of live births were LBW; this has slightly decreased to 8.1% in 2011 and 7.99% in 2012 (Federal Interagency Forum on Child and Family Statistics (2013), Martin, et al., 2013). In 2013 the LBW rate was 8.02% and was essentially unchanged in 2014 at 8.00% (Hamilton et al., 2015). There has been no significant drop in LBW in the last decade (National Health Start Association, 2011). The lower the infant birth weight, the greater the risk of poor pregnancy outcome (Martin et al., 2013). In 2010, 22% of infants born less than 1,500 gms did not survive their first year, compared with over 1% of moderately LBW infants, and 0.2% of infants born at 2,500 gms or greater (Mathews & MacDorman, 2013). Healthy People 2020 aims for reducing LBW to less than 7.8% (United States Department of Health and Human Services [HHS], 2014). Improving the well-being of mothers, infant and children is an important public health goal for the United States (HHS,

2014). Population-based strategies for eliminating social and economic disparities to reduce the rate of pre-term and low birth weight is one of the goals of APHA (APHA, 2014). Identifying effective interventions is crucial to reducing the incidence of LBW and improving the overall birth outcome.

LBW is one of the leading causes of infant mortality and morbidity and consumes significant health care resources (Feldman, Dunkel-Schetter, Sandman & Wadhawa, 2000; Hodnett, Fredericks, & Weston, 2010). Effective prevention of low birth weight depends on its cause (Hodnett et al., 2010). Research has revealed several maternal factors associated with low birth weight of the new born including advanced maternal age, race, weight gain during pregnancy, smoking, poor prenatal care, marital status, lack of social support, and medical risk factors such as gestational diabetes, pregnancy induced hypertension and history of pre-term birth (Bailey & Byrom, 2007; Borders, Grobman, Amsden & Holl, 2007; Carolan & Frankowska, 2011). The causes of pre-term birth include individual behavioral and psychosocial factors, neighborhood characteristics, environmental exposures, medical conditions, infertility treatments, biologic factors and genetics (Behrman & Butler, 2007). The prevalence of LBW is highest among African American women, teenagers less than 15 years of age and women of 40 years of age or older, women who smoked during pregnancy, and women who gained less than the recommended weight gain (CDC, 2011). Women from low socioeconomic status have a higher incidence of pre-term and LBW babies (Blumenshine, Egerter, Barclay, Cubbin, & Braveman, 2010). Low socioeconomic status affect health behaviors and nutritional status during pregnancy (Kehinde, Njokanma, & Olanrewaju, 2013)

Emotional distress during pregnancy is associated with adverse birth outcomes such as low birth weight, pre-term birth and poor neonatal health status (Elsenbruch et al., 2007).

Perceived social support is an individual's perception of how resources can act as a buffer between stressful events and symptoms (Zimet, Dahlem, Zimet & Farley, 1988). Social support that includes emotional, appraisal, informational and instrumental support (House, 1981) is associated with decreased psychological distress in pregnant women and reduces the risk of adverse pregnancy outcome as evident in observational epidemiological studies (Elsenbruch et al., 2007). Social support influences the pregnancy outcome by countering the effects of stress or by directly improving women's mental health (Orr, 2004).

Social support plays a major role in the influence of maternal factors on birth outcome (Elsenbruch et al., 2007). Feldman et al. (2000), in their prospective study among 247 pregnant women, found an indirect effect of mothers' marital status and education to babies' birth weight through social support. Women who were married and had more years of education had higher social support which in turn was associated with having a higher birth weight infant (Feldman et al., 2000). Women with low social support were less educated, had more chronic conditions and reported a higher incidence of smoking in the prospective study of 896 pregnant women by Elsenbruch et al. (2007). Women with high social support reported significantly higher quality of life compared with women in moderate and low social support groups in the study by Eisenbruch et al. (2007).

Social support, broadly defined as 'resources provided by others' is shown to have positive health effects including improved birth outcome (Orr, 2004). Social support is also known to have a protective effect during high life stress (Orr, 2004). However, the influence of social support on the birth outcome is not clearly understood. Research studies of social support and birth outcome have mainly been studied from the quantitative paradigm. There is a need for more focused studies in this area especially in a population who are at risk for low social support

(Orr, 2004). Studying social support of high risk pregnant women using qualitative research methods can provide more information on the dynamics of social support system.

Philosophical Foundation

The philosophical foundation that underlies qualitative inquiry is constructivism. The central question in constructivism is how people in a setting have constructed reality. “What are their reported perceptions, truths, explanations, beliefs and world view?” (Patton, 2002, p. 96). In constructivism, the basic ontological assumption is relativism, in which the human sense organizes experience into apparently comprehensible, understandable and explainable form. The basic epistemological assumption is transactional subjectivism, which is the assertion that reality depends on the meaning sets to the individuals and audiences engaged in forming those assertions. The basic methodological assumption of constructivism is hermeneutic-dialecticism, a process by which constructions entertained by the several involved individuals are first uncovered for meaning and then confronted, compared, and contrasted in encounter situations (Guba & Lincoln, 2001). Constructivism offer nursing research a highly robust and practical framework for research inquiry (Appleton & King, 1997). A qualitative descriptive approach is the design of the proposed study and thus integrates a constructivist paradigm.

The three design strategies for qualitative inquiry are naturalistic inquiry, emergent design flexibility and purposeful sampling (Patton, 2002). In naturalistic inquiry, real-world situations are studied as they unfold naturally. The researcher pursues new paths of discovery as they emerge and avoids getting locked into rigid designs (Patton, 2002). The researcher is proactive and flexible to the demands of the inquiry process (Appleton & King, 1997). In purposeful or purposive sampling, cases are selected because they offer useful manifestation of

the phenomenon of interest (Patton, 2002). Purposive sampling is essential to discover the variety of constructions and will help to articulate the phenomenon under study (Appleton & King, 1997). A naturalistic inquiry should be stimulated through the experience, interest and knowledge of the investigator (Appleton & King, 1997). A qualitative descriptive approach permits inquiry of perceived social support of low-income mothers in greater depth and allows flexibility with the deepening of understanding of phenomenon of social support as it unfolds.

Purposive Sampling

In qualitative inquiry, the focus is on the depth of relatively small samples, selected purposefully (Patton, 2002). The information rich cases provide in-depth understanding of the phenomenon of interest (Patton, 2002). The review of literature revealed that women from low socioeconomic backgrounds have a higher incidence of LBW babies (Blumeshine et al., 2010; Borders et al., 2007). The study focused on exploring the social support experiences of low-income women who had LBW babies.

Purpose

A review of literature had revealed that research studies on social support and LBW are largely observational and interventional studies. The positive effect of social support on LBW was evident in the majority of the observational studies. The major sources of emotional, informational and instrumental social support were identified as mothers, partners and peers in qualitative studies. Several possible explanations on how social support can contribute towards positive birth outcome have been proposed by researchers. These include improved prenatal care (Abadi, Ghazinour, Nygren, Nojomi & Richter, 2013), positive health behavior (Hobel et al., 2008) and the buffering role of social support (Wado, Afwork & Hindin, 2014). Mothers with

low social support can have adverse pregnancy outcome including LBW (Elsenbruch et al., 2007). Women from low socioeconomic background and higher financial stress have higher incidence of LBW babies (Blumeshine et al., 2010; Nkansah-Amankra, Luchok, Hussey, Watkins & Liu, 2010).

The current literature lacks research regarding the perceived social support of pregnant women in relation to birth weight from a qualitative perspective. It is not clearly known what elements of social support specifically contribute to the birth outcome. Qualitative studies can provide valuable information on the social support experiences in pregnancy. Women with low-income are at higher risk of delivering LBW babies (Blumeshine et al., 2010). Using a qualitative descriptive approach, the specific social support experiences of low-income women with LBW babies can be explored. Therefore, the purpose of this qualitative research study was to examine the perceptions and experiences of social support during pregnancy among low-income women who had recently given birth to a LBW infant.

Research Question

The following research questions were explored:

1. How do mothers describe their perception of social support during their recent pregnancy?
2. What were mothers' experiences of social support during their recent pregnancy?

Significance of the Study

LBW remains a significant health problem in the United States despite multiple interventions at the government level. Pregnancy is a period of both psychological and

physiological changes and a lack of adjustment constitutes a risk factor for mother (Elsenbruch et al., 2007). Research has revealed that social support plays a significant role in the birth outcome. Adequate social support has been shown to have health benefits for pregnant women and reduces adverse pregnancy outcome (Orr, 2004). A deeper understanding of the social support experience of mothers during pregnancy called for a qualitative inquiry. The information gleaned from the inquiry can be used to design interventions to improve social support during pregnancy specifically among the low-income population who is at high risk for low social support.

Definition of Terms

“Low Birth Weight” was defined as birth weight of less than 2500 gms at birth regardless of gestational age (Strayer & Rubin, 2012)

“Social support is the exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient” (Shumaker & Brownell, 1984).

“Mothers” were defined as women who have given birth to low birth weight babies before or after 37 weeks of gestation within the last nine months and are eligible for The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) program or Medicaid.

Assumptions

1. Mothers want to share their social support experiences that occurred during pregnancy
2. Mothers have the ability to recall their social support experiences during pregnancy.

In chapter 1, I discussed the problem leading to the development of this study, the significance of the problem, and the research questions directing the study. Definition of terms, underlying assumptions and philosophical tenets of qualitative inquiry were also presented.

Chapter Two: Literature Review

This chapter deals with the review of literature related to the study. In general, the literature on social support of pregnant women is limited with most of the studies published in 1990s. This review mainly focused on the studies published within the last 10 years. Relevant studies that were published in 1990's are also be discussed.

An overview of the maternal factors associated with low birth weight are discussed first. Effect of stress on pregnancy outcome and the role of social support are included in the review. Social support in relation to pre-term and full-term births are also discussed. Observational, interventional and qualitative studies of social support of pregnant women, especially among the low-income population, in relation to LBW conducted within the United States and worldwide were the main focus of discussion of this review.

Maternal Factors and Low Birth Weight

Several maternal factors have been identified as the potential causes of low birth weight. These factors include demographic factors such as age, race, education, marital status, child bearing history and socioeconomic status; health behaviors such as maternal nutrition, eating habits, weight gain during pregnancy and smoking; medical risk factors including gestational diabetes, anemia, pregnancy induced hypertension and history of pre-term birth; and psychosocial factors such as emotional stress and poor social support (Bailey & Byrom, 2007; Bener, Salameh, Yousafzai & Saleh, 2012; Borders, et al., 2007; Carolan & Frankowska; 2010; Colen, Geronimus, Bound & James, 2006; Dermont-Heinrich, Hawkes, Ghosh, Beam & Vogt, 2013; Frederick, Williams, Sales, Martin & Millien, 2008; Goldenberg & Culhane, 2007; Kaushal, Misra, Gupta & Singh, 2012; May, 2007). Women less than 20 years of age and more

than 35 years of age are at increased risk of having low birth weight babies (Dermont-Heinrich et al., 2013). African American women and Asian women are at higher risk of having LBW babies compared to Caucasians (Acevedo-Garcia, Soobader & Berkman, 2005; Collins, David, Handler, Wall & Andes, 2004). Mothers with lower educational attainment had increased incidence of adverse birth outcome in a five-year population study based on the North Carolina Detailed Birth Record (Gray, Edwards, Schultz & Miranda, 2014). Single women have a higher risk of delivering LBW babies compared to married women (Dermont- Heinrich et al., 2013).

Multiparous mothers were at higher risk of delivering low birth weight babies compared to primiparous mothers (Kaushal et al., 2012). Frederick et al. (2008), in their prospective cohort study of 2,670 women who delivered singleton infants, found that gestational weight gain was positively associated with infant birth weight. In the retrospective study by May (2007), using the maternal records of 239 mother-infant pairs, it was revealed that low birth weight was predicted by inadequate gestational weight gain. Colen et al. (2006) reported that infants born to smokers were 2.7 times more likely to be low birth weight than infants of nonsmokers. Improved maternal nutrition and healthy eating habits have shown a positive effect on birth outcome (Saad & Fraser, 2010).

Bener et al. (2012) in their prospective study of pregnant women found that medical risk factors such as gestational diabetes mellitus and anemia were significantly associated with LBW births. Odell et al. (2006) in their retrospective cohort study of African American and Haitian women found that chronic hypertension and preeclampsia were strong predictors of LBW births. Previous history of pre-term and small for gestational age infants are also associated with LBW births (Odell et al., 2006). Poor socioeconomic status is a predisposing factor for adverse birth outcome (Blumenshine, Egarter, Barclay, Cubbin, & Braveman, 2010). Women who reported

food insecurity, living in a home with at least one child with a chronic illness, living in a crowded home, being unemployed or having poor coping skills were significantly more likely to have a LBW neonate (Borders et al., 2007). Nkansah-Amankra, Luchok, Hussey, Watkins, and Liu (2010) in their retrospective study using data from the Pregnancy Risk Assessment and Monitoring System (PRAMS) of 8,064 women found that mothers who reported financial, emotional, spousal and traumatic stress were significantly at higher risk of having LBW neonates. Psychosocial stress and poor social support are associated with LBW outcome (Borders et al., 2007). Babies born to mothers with low social support during pregnancy had reduced birth weight by 200 gm on average (Eisenbruch et al., 2007).

Stress and Pregnancy Outcome

Pregnancy is a period of both psychological and physiological changes and a lack of adjustment constitutes a risk factor for mother (Eisenbruch et al., 2007). Psychosocial stress influences pregnancy outcomes through both behavioral and psychological mechanisms (Zachariah, 2009). Stress causes release of catecholamine leading to decreased uterine perfusion and reduced fetal growth (Hobel et al., 2008). Maternal social stress can cause a suboptimal uterine environment and may lead to low birth weight (Brunton, 2013). Behavioral stress effect refers to the connection between unhealthy life styles and behaviors such as poor nutrition, smoking and lack of exercise increasing the risk of adverse pregnancy outcomes (Zachariah, 2009). Social stress during early pregnancy tends to result in pregnancy loss whereas stress exposure later in pregnancy can lead to LBW outcomes (Brunton, 2013). In the analysis of data from the Pregnancy Risk Assessment Monitoring System (PRAMS) Nkansah-Amankra et al. (2010) found that maternal stress was significantly associated with increased risk of LBW and pre-term deliveries. In the prospective study of low-income African American women by Dailey

(2009) the social stressor of discrimination due to age and physical disability were significant predictors of low birth weight.

Effect of Socioeconomic Status on Birth Weight

Women from lower socioeconomic status have more daily cumulative stressors and are likely to have greater physiological effects of stress (Seeman, Epel, Gruenewald, Karlamangla & McEwen, 2010). Socioeconomic status may indirectly influence the fetal growth through maternal nutritional status and maternal health seeking behavior (Kehinde et al., 2013). Women from lower socioeconomic status reported a poorer experience of care during pregnancy and the most socioeconomically deprived women were less likely to have received any antenatal care according to the secondary analysis by Lindquist, Kurinczuk, Redshaw and Knight (2010). Lower socioeconomic status is significantly associated with high LBW rate compared to higher socioeconomic status (Kehinde, et al., 2013). In the study by Kehinde et al. (2013), babies who were born in the lower socioeconomic classes had significantly lower mean birth weight compared to babies born in the higher socioeconomic class. In the secondary analysis of PRAMS data by Nkansah-Amankra et al. (2010) mothers living in disadvantaged neighborhoods such as low-education and high poverty were more likely to have LBW and pre-term deliveries.

Role of Social Support on Birth Outcome

Social support plays a major role among maternal factors that influence birth outcome (Elsenbruch et al., 2007). Several theories and relationships have been proposed regarding the interaction of social support on pregnancy outcomes (Elsenbruch et al., 2007; Hobel et al., 2008; Zachariah, 2009). Social support influences the pregnancy outcome by countering the effects of stress or by directly improving a woman's mental health (Orr, 2004). Social support as an

effective psychosocial resource buffers the impact of life stress on emotional wellbeing of the mother (Elsenbruch et al., 2007). Social support may influence etiological processes related to fetal growth by enhancing positive health behavior and life style in pregnant women (Bullock, 2002; Hobel et al., 2008). In addition, higher social support is associated with a better quality of diet (Harley & Eskenazi, 2006) which in turn affects fetal growth and pregnancy outcome (Elsenbruch et al., 2007; Hobel et al., 2008). Women with low social support were less educated, had more chronic conditions and reported a higher incidence of smoking in the prospective study of 896 pregnant women by Elsenbruch et al. (2007).

Social support can play a buffering role by providing resources, support and strength during pregnancy (Wado, Afwork & Hindin, 2014). In the prospective study by Elsenbruch et al. (2007) assessing the effect of social support during pregnancy on birth outcome, women were allocated into low, medium and high social support groups based on their social support score. Among women who had smoked during pregnancy, the high social support group had fewer complications related to pregnancy compared to the low social support group (Elsenbruch et al., 2007). In a study of 600 mothers between the ages of 15 to 29 years old, satisfaction with social support and use of positive reappraisal was significantly associated with higher birth weight (Abadi, Ghazinour, Nygren, Nojomi & Richter, 2013). Social support negates the effects of stress, improves women's coping skills and psychological well-being, and thus the person experiences fewer life stressors (Abadi et al., 2013). Women from lower socioeconomic status have a higher chance of LBW babies and social support may act as a protective buffer against the harmful effects of stress (Byrd-Craven & Massey, 2013). Another possible explanation of positive effect of social support on pregnancy outcome is the increased frequency of prenatal care among women who have high social support compared to women with low social support

(Abadi et al., 2013). Mann, Mannan, Quinones, Palmer and Torres (2010), in their study of 248 pregnant and post- partum Hispanic women, found that social support and a stronger relationship with a significant other was associated with reduced perceived stress. The results of the study reinforces the importance of social support and relationship quality for pregnant and post-partum women.

The studies that assess the effect of social support on pregnancy outcome can be broadly classified into observational studies, secondary analysis, intervention studies and qualitative studies.

Observational Studies

Several observational studies have been conducted about the relationship between social support and pregnancy outcome. Most of these studies revealed the positive effects of social support on birth outcome. Feldman et al. (2000) conducted a prospective study among 247 women with a singleton intrauterine pregnancy receiving care in university affiliated prenatal clinics. Participants' general socio-demographic characteristics, family support, support from baby's father and general functional support were assessed using a demographic questionnaire, family support scale, baby's father support scale, and interpersonal support evaluation list, respectively. Birth outcome and obstetric risk information were assessed from patients' medical chart after delivery. Results of this study showed that women with more family support and general functional support had significantly higher birth weight infants. Social support was also associated with birth weight after controlling for obstetric risk factors such as prior pregnancy history and complications of the current pregnancy (Feldman et al., 2000). Abadi et al. (2013) in their cross-sectional study among 600 mothers found that higher satisfaction of mothers with social support was significantly associated with normal birth weight. Social support of mothers

was assessed using a social support questionnaire that considered two factors; social support network and satisfaction with available support.

Dejin-Karlsson and Ostergren (2004) conducted a study in Sweden among 826 nulliparous women to investigate the risk of small for gestational age (SGA) in relation to country of origin and social support. Seventy-eight percent of women were born in Sweden and 22% were foreign-born. Women's social network and social support were assessed. Social anchorage, the degree to which people attach themselves to formal or informal groups and social participation, were the two components of social network. Social support included emotional support, instrumental support, support from the child's father and maternal support. Out of the 55 infants that were classified as SGA, 37 were of Swedish nativity and 18 were of foreign nativity. Foreign-born women who reported low access to social anchorage and emotional support had an increased risk of delivering SGA babies. The authors of this study concluded that psychosocial factors linked to a disadvantaged social situation could be the focus of preventing SGA in immigrant women.

The studies that tested the association between social support and preterm birth are very limited. Gosh, Wilhelm, Dunkel-Schetter, Lombardi and Ritz (2010) conducted a study to assess whether social support during pregnancy influences pre-term birth risk. Researchers interviewed mothers of 1,027 single preterm births and 1,282 full term neonatal controls. Paternal support was assessed using a questionnaire that assessed how the baby's father cared about her, criticized her and supported her financially while she was pregnant. Women with moderate to high levels of chronic stress and lacking in support from baby's father had higher odds of preterm birth compared to women with low stress.

The interaction of social support on maternal stress, depression and birth outcome has been studied by researchers. Elsenbruch et al. (2007) conducted a prospective study of 896 pregnant women to assess the effect of social support during pregnancy on maternal depressive symptoms, quality of life and pregnancy outcome. Social support was assessed using a social support questionnaire with 22 items that addressed several dimensions of perceived social support including emotional and instrumental support, social integration and satisfaction with support network. Women were allocated into low, medium and high social support group based on their score on a social support questionnaire. Women with low social support were less educated, had more chronic conditions and reported a higher incidence of smoking. Babies born to mothers with low social support during early pregnancy had a markedly reduced birth weight by nearly 200 gm on average after exclusion of pre-term deliveries. Among a sample of pregnant women in Ontario, Glazier, Elgar, Goel and Holzapfel (2004) found that women who reported low levels of social support showed stronger relationships between stress and anxiety and depressive symptoms than women who reported high levels of social support, demonstrating a mediating effect of social support.

Wado et al. (2014) in their prospective study examined the effect of an unwanted pregnancy, prenatal depression and social support on LBW in rural Ethiopia. The sample of 622 women was followed from pregnancy through delivery and 537 birth weights were measured within 72 hours. Social support was measured using Maternity Social Support Scale (MSSS). MSSS is a 6-item questionnaire that assesses the family support, friendship network and relationship with spouse (Webster et al., 2000). The mean birth weight of babies after unwanted pregnancy was 114 gms lower compared to intended pregnancy. Mean birth weight of babies of women with antenatal depression was 116 gms lower. The relationship between antenatal

depressive symptoms and LBW was mediated by the presence of social support. The researchers concluded that providing adequate social support would improve birth outcome. The longitudinal study by Sanguanklin et al. (2014) found that pregnant women who were displaced due to flooding in Thailand had lower birth weight infants compared to non-displaced women. Among displaced women, social support was associated with higher infant birth weight showing the protective effect of social support in stressful life situations. The Medical Outcome Study-Social Support Survey (MOS-SSS) was used to measure the perceived social support that includes four dimensions of support including emotional/ informational, affectionate and tangible support, and positive social interaction.

Social support and pregnancy outcome had been studied in various cultural and economic contexts. Campos et al. (2008) investigated the relationship among familism, social support, perceived stress, pregnancy anxiety and infant birth weight in a sample of foreign-born Latinas, US born Latinas and European Americans. Familism is a cultural value that emphasizes close family relationships. Perceived social support was assessed using a 19 item MOS-SSS that includes four dimensions of affectionate support, emotional/informational support, tangible support and positive social interaction. For Latinas and European Americans, familism was positively associated with feeling more supported, less stressed and less anxious about pregnancy. Latinas scored higher on familism than European Americans. Higher social support was associated with higher infant birth weight among foreign-born Latinas. Kim, Choi and Ryu (2010) in their descriptive study assessed the correlation among social support, stress and prenatal practices among married pregnant immigrant women in Korea. The results of the study found that stress decreased with higher social support and a higher social support increased the practice of prenatal care.

In the study by Zachariah (2009) using a prospective repeated measures design, the relationship between attachment, social support, life stress, anxiety and psychological well-being and the prenatal, intrapartum and neonatal complications were examined. The sample included 111 medically healthy, low-income women between 14 to 22 weeks of pregnancy. Social support was assessed using Norbeck Social Support Questionnaire (NSSQ). NSSQ examines three types of perceived social support; emotional support, functional support and tangible support (Lopez & Cooper, 2011). The study revealed that the most important discriminating factor for pre-natal complications were state anxiety and total functional social support. Social support, attachment with partner and psychological well-being were negatively correlated with prenatal complications including pre-term labor. Psychological well-being was inversely correlated with neonatal complications including LBW outcome.

A few of the observational studies did not reveal the strong positive correlation between social support and LBW incidence. Nobile, Raffaele, Altomare and Pavia (2007), in their study among the mothers of babies born between January and December of 2003, found that women who had LBW infants had more social/ familiar support than women with normal birth weight babies (64% Vs 57%). In the prospective study of 119 African-American pregnant women by Dailey (2009), 14% were born with birth weight less than 2500 gm. The social stressor of discrimination due to age and physical disability were significant predictors of low birth weight, however spirituality and social support were not associated with low birth weight. Nylen et al. (2013), in a prospective study among 235 pregnant women, found no direct association between social support and birth weight. However depressed women who rated their partner as less supportive had babies born earlier and had lower APGAR scores than depressed mothers with higher perceived partner support. Almedia, Mulready-Ward, Bettgowda, and Ahluwalia (2013),

in the secondary analysis of New York PRAMS data, found an inverted U shaped relationship between perceived social support and LBW. Women who reported low and high social support were significantly less likely to have a LBW infant than women who had medium social support. Majority of the studies that assessed the relationship between social support and preterm birth found no direct evidence of a positive effect of social support in preventing preterm birth (Behrman & Butler, 2007). Dole et al. (2003), in a prospective cohort study of 1962 pregnant women, found that different levels of social support were not associated with pre-term birth.

Social support has also been shown to cause some negative effects. Byrs-Craven and Massey (2013) conducted a study among 31 low-income pregnant women to examine the relationship between social support dynamics especially co-rumination and support from baby's father with maternal health and emotional outcomes. Co-rumination is the extensive discussion of personal problems, re-visiting and speculating on problems with a focus on negative feelings (Rose, 2002). The results revealed that daily stressors, co-rumination with friends, and relationship with baby's father were related to bodily pain and depressive symptoms. Lack of paternal support and daily stressors were precipitating factors of co-rumination. The results of the study pointed out the importance of interventions that focus on problem discussion towards solution and away from the focus on negative effect.

Secondary Analyses

The positive effect of social support on birth outcome has also been observed among studies using secondary analysis of data. Nkanash-Amankra, Dhawain, Hussey and Luchok (2010) conducted an analysis of the South Carolina PRAMS data to evaluate the relationship between social support and birth outcome. Researchers linked the PRAMS data sets geocoded to US Census data. PRAMS is a state specific population-based surveillance system that collects

information on maternal experiences prior to, during and after child birth for mothers having live births (Nkanash-Amankra et al., 2010). Maternal social support was measured from six items from the PRAMS survey reflecting emotional, informational, tangible and belonging support. In this study, low social support was found to be an independent risk factor for LBW. Non-Hispanic black mothers who reported low or medium social support were at increased risk of LBW outcome more than five and three fold, respectively, compared to white women with high social support.

Dyer, Hunter and Murphy (2010) conducted a retrospective study using PRAMS data from Utah to explain the phenomenon of 'Latina Paradox'. 'Latina Paradox' is described as Mexican born women who have lower incidence of LBW babies in the United States compared to White US born women (Dyer et al., 2010). Social support and social network have been suggested as the potential explanatory factors for this phenomenon. The purpose of their study was to explore the differences and interactions between social networks and birth weights of four groups in Utah: White non-Hispanic, Hispanic Mexican-born, Hispanic US-born, and Hispanic other foreign born women and their infants. Social network size was assessed from the question on the PRAMS survey that asks about whom the participant believes that she can turn to for help. 'Latina Paradox' was not demonstrated in the study. However social network size was significantly associated with birth weight. Husbands in both US and Mexican culture appeared to be the main source of social support. Lack of evidence of 'Latina Paradox' may be due to recent immigration of Mexican women to Utah pre-disposing them to low social support as well as decreased access to early prenatal care (Dyer et al., 2010).

Intervention Studies

While the majority of the non-experimental studies of pregnant women and their social support network indicated positive findings, only a few of the randomized controlled trials have shown improved birth outcome (Hobel et al., 2008). Norbeck, DeJoseph and Smith (1996) conducted a two phase study among low-income African American women. In the first phase, qualitative methods were used to learn the life situation and characteristics of social support that were needed during pregnancy. The social support intervention consisted of four face to face sessions based on the information obtained from the first phase. Birth weight was obtained from patient records or birth certificates. The adequacy of social support was assessed using the Norbeck Social Support Questionnaire (NSSQ). The rate of LBW was 9.1% in the intervention group compared to 22.4% in the control group (Norbeck et al., 1996). The study hypothesis was tested using a one-tailed Fisher's exact test that was statistically significant, $p = .0455$.

As part of larger randomized controlled trial, Lee et al. (2009) assessed the effectiveness of a prenatal home visitation program in reducing the adverse birth outcomes among socially disadvantaged pregnant women and adolescents. Home visitation of pregnant mothers by trained nurses focused on improving social support, providing prenatal education and linking mother to others services in the community. The risks of delivering a LBW baby was significantly lower for the intervention group than for the control group (Lee et al., 2009).

The randomized controlled trial by Bryce, Stanley and Garner (1991) tested the effect of antenatal social support intervention on the occurrence of pre-term birth. The intervention aimed at providing emotional support consisting of home visits and telephone calls by midwives. The intervention group had 12.8% of preterm births compared to 14.9% of preterm births in the control group. However, this reduction was not statistically significant and the authors

concluded that there was little evidence of the effectiveness of social support in prevention of preterm birth.

Lu, Lu and Schetter (2005) conducted a meta-analysis to evaluate the research designs of social support interventions for prevention of LBW. There were 12 studies that were published from 1986 to 2000. All of the studies offered social support as a single intervention or as a centerpiece of a multicomponent intervention with the major goal of reducing LBW. A critical evaluation of these studies by the researchers revealed that the majority of the studies did not meet all the criteria for rigorous intervention research and there were several pitfalls common to the designs of the majority of these studies. Most of these interventions in these studies were not theory driven. Social support was not welcomed by all the participants of the study (Spencer, Thomas & Morris 1989, as cited in Lu et al., 2005). Some of the studies provided inappropriate social support and thus had an intrusive effect (Karfmacher, Kitzman & Olds, 1998, as cited in Lu et al., 2005). Karfmacher et al. (1998) point out that mothers received only half of the home visits as expected by the protocol causing inadequate coverage of the various dimensions of social support (as cited in Lu et al., 2005). The successful intervention trial by Norbeck et al. (1996) had a clear theoretical and empirical basis (as cited in Lu et al., 2005).

The meta-analysis by Hodnett et al. (2010) examined social support intervention studies published between 1986 and 2001. Out of the seventeen trials, 10 of the studies had been included in the review by Lu et al. (2005). These studies did not show clear evidence on improved birth outcome by offering additional social support (Hodnett et al., 2010). This is explained by the majority of the studies not having adequate follow up of participants and lack of a comprehensive view of major stressors in pregnant women (Hodnett et al., 2010). Langer (2014) in a review of randomized controlled trails of social support on maternal and birth

outcomes found no reduction in number of pre-term or LBW newborns. The reason for this is due to lack of social support interventions that are powerful enough to counterbalance the effect of daily stressors of pregnant women and failure of the studies to identify women at true high risk of having LBW babies (Langer, 2014). However, social support interventions did reduce antenatal hospital admissions and caesarean section (Hodnett et al., 2010; Langer, 2014). Orr (2004) in a review of studies related to social support and birth outcome concluded that the intervention studies had very limited power to demonstrate statistical difference in LBW. Therefore, it is premature to conclude that social support interventions are ineffective in improving birth outcome (Lu et al., 2005).

Qualitative Research on Social Support in Pregnancy

Qualitative studies of social support among pregnant women were focused mainly on the cultural context, health practices and sources of social support. Qualitative studies conducted among Latina pregnant women will be discussed first. Fleuriet (2009) conducted an ethnographic research study among 28 immigrant women from Mexico living in south Texas. The study focused on the phenomenon of the 'Latina Paradox'. The higher birth weight among immigrated Mexican and Central American women compared to white women is unexpected due to risk factors for LBW including poverty, ethnic minority status and little prenatal care (Fleuriet, 2009). Social support is thought to produce a protective effect in these women. The women shared an expectation of the pregnancy related emotional support from close female kin. However, their expectations of the kinds of support and from whom varied greatly. Women's desire for pregnancy related social support fell along a spectrum of desire, ambivalence and no desire. The differences were based on how each woman made meaning of the individual pregnancy in the context of unique life experiences.

Domian (2001) conducted an ethnographic study among 20 Hispanic pregnant women to describe the social support experiences during pregnancy and to further explore the protective factors that underlie the phenomenon of 'Latina Paradox'. Each woman was interviewed twice during their pregnancy and once in the postpartum period for a total of 60 formal interviews. Yearly family income of the women ranged from \$5000 to \$50,000 per year. Four themes that were relevant to cultural practices and social support were cultural preservation through anchors of meaning, family perpetuation through generational bonding, stability amid change through community sustenance, and integration of health care beliefs through reciprocal interchange. The findings of the study revealed that "positive birth outcomes were facilitated by a cultural orientation that fostered social support for pregnant women. social support appeared to be a greater factor in positive birth outcomes than was socioeconomic status and formal prenatal care" (Domian, 2001, p. 335).

Thornton et al. (2006) conducted a qualitative study using semi-structured interviews with dyads made up of ten pregnant and post-partum Latina women and ten people who influenced them. The objective of the study was to investigate the influence of social support on weight, diet, physical activity related beliefs among pregnant and post-partum Latina women. Eating and physical activity patterns of study participants were influenced by cultural beliefs and family rituals. However, women's ability to adopt to healthy eating and exercise habits were mostly affected by the support provided by their husbands. Lack of instrumental support from husbands often inhibited women's healthy practices. The study findings revealed the importance of influence of social support on pregnancy related behaviors.

The majority of the qualitative studies focused on sources and perception of social support. Edmonds, Paul and Sibley (2011) in their qualitative study explored the type, content

and source of women's perceived social support during pregnancy in Matlab, Bangladesh. In-depth interviews with 25 women aged 18 to 49 years were conducted. The four most frequent types of support perceived by women included practical help with routine activities, information/advice, emotional support and assurance, as well as provision of resources and material goods. The other types of support identified were logistic communication, prayer and spiritual rituals, nutritional support and accompaniment outside the homestead.

Husbands and female relatives were identified as the major sources of social support by pregnant women. Chongo and Ngoma (2014) conducted a qualitative study to explore and describe pregnant women's perceptions of husband's provision of social support during pregnancy and labor. Focus group discussions among 34 married expectant mothers between the ages of 20 to 49 years were conducted. Most women reported that they wanted their husbands to help with household chores and preparation for the coming baby. Provision of emotional and financial support by husbands were expressed as supportive behavior during pregnancy by many women. In the study by Thornton et al. (2006), husbands and female relatives were identified as the primary sources of emotional, instrumental and informational social support by women. "Emotional support given by husbands was reported as the strongest influence on women's eating patterns" (Thornton et al., 2006, p. 100). Darvill, Skirton and Farrand (2010), in their qualitative study among first time mothers, found that the three different sources of personal support identified by women were mothers, partners and peers. In the study by Edmonds et al. (2011) sources of social support identified by women were mothers, mothers-in-law, sisters-in-law and husbands.

The buffering effect of social support in decreasing stress and improving women's health is evident in literature (Elsenbruch et al., 2007; Hobel et al., 2008; Wado et al., 2014). Health

care practitioners can provide social support during prenatal care to improve birth outcome. However, women from lower socioeconomic status may not be able to receive social support in a clinic setting due to time constraints (Bullock, Browning & Geden 2002). Bullock et al. (2002) conducted a qualitative study to assess the feasibility of telephone social support to low-income pregnant women. The three major categories that emerged included pregnancy related complaints, problems with children and /or extended family, and problems with partner. Many participants discussed lack of support from the partner and some revealed an abusive relationship with their partner. The results of the interviews revealed that the telephone support was highly acceptable to the women.

Social support of pregnant women has also been studied in various contexts including maternal transition and age variation among adolescents. Darvill et al. (2010) using a grounded theory approach conducted a qualitative study to explore maternal transition during child bearing from women's perspective and to identify unmet needs of support. Thirteen women aged 17 to 39 years were interviewed. Three main themes that emerged included control, support and forming a family. These contributed to the core-category 'change in the woman's self-concept'. The study findings revealed that social support was a factor that influenced the way in which maternal transition was experienced. Lack of support led some women to feeling more vulnerable at different stages of transition whereas feeling supported facilitated women to gain confidence in their new perception of themselves.

Logsdon, Gagne, Hughes, Patterson and Rakestraw (2005) conducted a qualitative study based on feminist theory using focus groups among pregnant adolescents to investigate their experience of receiving social support and variations by age. The age group of participants ranged from 13 to 18. A metaphor of a 'patchwork quilt' emerged as adolescents 'piece

together' available support. Adults, peers, and partners were frequently inconsistent providers of support. Mothers of pregnant adolescents were identified as consistent providers of support. Pregnant adolescents described support from the baby's father ranged from no support to uncertainty about support. Social support varied depending on their family, socioeconomic status, safety issues and relationships with baby's father. Despite the challenges and issues faced by pregnant adolescents, most of them exhibited resilience as evidenced by a metaphor of piecing together a patchwork quilt of social support. Nurses and health care professionals should provide an opportunity for adolescents to understand their challenges in obtaining social support to offer assistance as needed (Logsdon et al., 2005).

The Concept of Social Support

House (1981) proposed four forms of social support: emotional, instrumental, appraisal and informational support. Emotional support that involves providing empathy, caring, love, and trust is the most important form of social support (House, 1981). Instrumental support involves instrumental behaviors such as provision of money, labor, time and modifying environment. Informational support involves providing advice, suggestions, directives and information. Appraisal support involves provision of information that is relevant to self-evaluation such as feedback, affirmation and social comparison (House, 1981). Subjective or perceived social support refers to the perception of social support as available to one self. Objective social support refers to the extent of social support provided as perceived by others (House, 1981). General support is 'concerned about welfare in general' (House, 1981, p.28). In problem-focused support, support is directed to deal with a specific issue (House, 1981).

Social support is often measured in terms of perceived psychological sentiments (House, 1987). The measures of social structures include social integration and social networks (House,

1987). Social integration refers to existence of social relationships and social network refers to the structure among a set of relationships (House, 1987). House (1987) explained how social integration and network are related to perceptions of social support. “Existence of social relationships is a necessary precondition or cause of network structure that both of these may affect sentiments of social support” (House, 1987, p.138). House (1987) emphasized that social support studies need to examine the effect of social integration and social network on perceived social support.

In the present review, social support has been defined and measured in different ways. Sources and dimensions of social support, support network, satisfaction with social support and social integration were the major concepts in observational studies. The focus of interventional studies was the actual provision of social support including telephone support, home visitation, support by health care professionals and family members. The common social support dimensions identified were emotional, informational and instrumental social support and the support network.

The applicability of social support is evident in studies related to maternal and child health. The four forms of social support - emotional, instrumental, informational and appraisal support - have been used in many social support studies related to pregnancy. Harley and Eskenazi (2006) in their study of 568 low-income pregnant women of Mexican descent used the theoretical concepts of social support by House (1981). The objectives of the study were to determine whether social support patterns were associated with age at arrival in the United States, whether social support was associated with pregnancy behaviors and whether increased social support could prevent some of the negative behaviors that accompany acculturation. This study found that earlier age of arrival in the United States was associated with poorer health

behaviors, social support was lowest among women who came to US at an older age and higher social support was associated with better diet quality and decreased smoking during pregnancy. Elsenbruch et al. (2007) in their prospective study used a social support questionnaire which addressed several dimensions of social support including emotional, instrumental and social integration.

The positive correlation between social support and birth outcome are evident in quantitative observational studies. The concept of social support identified in these studies were sources and dimensions of social support, support network and social integration. However, these studies fail to explore what specific elements of social support that contribute to an improved birth outcome. Through a qualitative approach, these specific elements can be explored and can provide a framework for designing interventions among socially disadvantaged population to improve outcome.

Summary and Gaps in Literature

While a solid positive correlation between social support and birth outcome was evident in majority of the observational studies, intervention studies fail to show this linkage. Most of the intervention studies have not had significant results when they focused on improving the birth weight (Hodnett et al., 2010; Lu et al., 2005). There appears to be a significant inconsistency among quantitative studies in regard to the effect of social support in reducing adverse birth outcome. This has led to a lack of conclusive evidence of the effect of social support on improving birth outcome. Qualitative studies can address this issue by exploring the perceived social support of pregnant women. Based on the information obtained from this study, social support interventions can be designed and can direct the evidence based practice of health care providers to improve birth outcome. Furthermore, based on this review, there has not been a

single qualitative study that assessed the social support of mothers who had low birth weight babies.

Need for Further Research

Despite the lack of conclusive evidence from social intervention studies in improving birth outcome, they demonstrated health benefits for women including decreased smoking, improved health related behavior among pregnant women (Orr, 2004), decreased occurrence of cesarean section and antenatal admissions (Hodnett et al., 2010), increased use of prenatal care and satisfaction with care (Elsenbruch et al, 2007). The beneficial health effect of social support on pregnant women may ultimately impact the health of the infant (Lu et al., 2005). Therefore, there is a need for qualitative studies to provide descriptive information on the effect of social support on women's perceived social support and pregnancy outcomes (Lu et al., 2005; Hodnett et al., 2010).

While the observational studies had positive findings on birth outcome, the inability of the intervention studies to demonstrate this effect is quite puzzling to experts and is a source of controversy (Behrman & Butler, 2007). This researcher believed that qualitative studies that explore the phenomenon of social support in-depth would be able to shed some light into this inconsistency. Women from lower socioeconomic background are highly vulnerable for adverse birth outcomes and the effect of social support among such a high risk population needed further exploration. Moreover, through face to face interaction with mothers who can express their social support experiences, their unique social support needs could be explored.

Summary

The review of the literature focused on studies related to social support among pregnant women and low birth weight occurrence. The majority of the studies were observational studies. The positive effect of social support on low birth weight is well documented in the literature. However, there exists a gap for qualitative studies that explore the social support experiences of women who have had low birth weight outcomes. LBW rates are higher among economically disadvantaged population. Exploration of social support experiences in a high risk population such as low-income women called for use of qualitative methodology. Qualitative research can describe the phenomenon of social support among pregnant women and can provide valuable information that can be utilized to implement measures to prevent adverse birth outcome in high risk population. The review identified the existing state of the science. There exists a need for qualitative studies to explore the perceived social support of low-income women who had low birth weight babies.

Chapter Three: Methodology

Introduction

In this chapter the methodology of the study is presented. The research question and purpose of the study are reviewed. The design, sample and setting of the study are discussed. A detailed description of the data collection procedure with supporting literature is presented. The data analysis plan and evidence of trustworthiness and rigor are discussed. The chapter concludes with discussion of ethical considerations for human subjects that were employed.

Purpose and Research Question

The purpose of this qualitative research study was to examine the perceptions and experiences of social support during pregnancy among low-income women who have given birth to a LBW infant within the last 9 months.

Research Question

The following research questions were explored:

1. How do mothers describe their perception of social support during their recent pregnancy?
2. What were mothers' experiences of social support during their recent pregnancy?

Research Design

A qualitative descriptive design was used to explore mothers' social support experiences during pregnancy. "Qualitative descriptive studies offer a comprehensive summary of an event in the everyday terms of those events" (Sandelowski, 2000, p. 336). Through qualitative description, researchers can obtain straight and largely unadorned answers to questions of special relevance (Sandelowski, 2000). Thorne, Kirkham and MacDonald-Emes (1997) discuss

interpretive description as a method of qualitative inquiry into human health and illness experiences for the purpose of developing nursing knowledge. In interpretive description, findings are constructed on the basis of thoughtful linkage to the existing knowledge (Thorne et al., 1997). The descriptive design was chosen for the study as the researcher was seeking to obtain straight 'candid and from the heart' description of the social support experiences of such mothers during their pregnancies.

Qualitative exploration is suitable when little is known about a particular research area, existing research is confusing or contradictory or the topic is highly complex (Barker, Pistrang & Elliott, 2002). The review of literature pertaining to this study topic revealed conflicting results on the effect of maternal social support on LBW birth. While the majority of the observational studies demonstrated positive effect of social support on improving pregnancy outcomes, only a few of the interventional studies demonstrated this effect. Furthermore, the review of literature revealed a lack of qualitative research studies exploring the perceived social support of pregnant women in relation to giving birth to a low birth weight infant. Therefore, a qualitative descriptive inquiry was found to be suitable as it provided in-depth information about the social support during pregnancy especially in relation to LBW outcome.

The aims of qualitative exploration are to define, describe, interpret, critically analyze and to deconstruct a phenomenon of interest (Elliott & Timulak, 2005). The nature and characteristics of an area of interest are explored in defining a phenomenon. In description, the researcher is interested in the various aspects and varieties of a phenomenon. The unfolding of a phenomenon over time can be explored in interpretation. In deconstruction, the social and political implications of a phenomenon are explored. Qualitative description is one of the most frequently employed methodological approaches in practice disciplines (Sandelowski, 2000).

“The value of qualitative description lies not only in the knowledge its use can produce but also as a vehicle for presenting and treating research methods as living entities that resist simple classification” (Sandelowski, 2010, p. 83). Women with low-income are vulnerable for adverse birth outcome and they typically rely on social relationships to reduce stress (Byrd- Craven & Massen, 2013). The experiences of social support in such at risk population needed further exploration. The study explored the social support experiences of low-income mothers retrospectively. With a qualitative descriptive design, the researcher was seeking to obtain a low- inference deep description of the social support experiences of women and gain in-depth understanding of the phenomenon.

Sample and Setting

The following sampling inclusion criteria were used: women, 18 years or older, who were English speaking, in the low-income category and who had given birth to a LBW baby within the last 9 months. “Low Birth Weight” was defined as birth weight of less than 2500 gms at birth regardless of gestational age (Strayer & Rubin, 2012). Women who were eligible for WIC or Medicaid were considered as low-income category. WIC is a supplemental nutrition program for women, infants and children who have low-income (United States Department of Agriculture (USDA), 2014). For the state of Kansas and Missouri, to be eligible for WIC, the annual household income should be less than \$44,123 for a family of four (USDA, 2014). The exclusion criteria were women who had multiple births and women whose babies were in Neonatal Intensive Care Unit (NICU) due to medical issue at the time of recruitment. Women with multiple gestation have a higher incidence of LBW babies compared to single gestation (HHS, 2013). The researcher was interested in exploring the social support of women with

singleton pregnancies. Women with multiple gestation pregnancies and those with babies in NICU have complex emotional, social and physical needs.

The sample for the study was purposively chosen from three urban and two rural WIC clinics in Midwest area and a university affiliated neonatal medical home. A purposive sampling with maximum variation was used for sample selection. Maximum variation sampling allows the researcher to explore the common and unique manifestations of a target phenomenon across a broad range of demographically varied cases (Sandelowski, 1995). Purposive sampling aims at capturing and describing central phenomenon across variation. The common patterns that emerge from variation are of particular interest and provides for capturing the core experiences and central shared dimensions of a setting or phenomenon (Patton, 2002). The diverse demographic characteristics of low-income mothers provided for maximizing the variation. The exploration of social support experiences across these variations allowed for capturing the core experiences.

Among published qualitative studies of social support in pregnant women, the average sample size was 20. In the ethnographic study by Domian (2001), 20 pregnant Hispanic women were interviewed. Thornton et al. (2006) in their qualitative study interviewed ten pregnant and post-partum Latina women and ten people who influenced them. In purposive sampling, information rich cases are selected strategically and purposefully (Patton, 2002). In qualitative inquiry, the sample size depends on the adequacy, appropriateness and richness of information (O'Reilly & Parker, 2013). Information richness of the samples selected is determined based on the validity, meaningfulness and insights generated from the qualitative inquiry (Patton, 2002) and therefore the sample size depends on the richness or saturation of data obtained from the samples. The emergent design of qualitative inquiry allows for flexibility of sample size as the phenomenon unfolds (Patton, 2002). Data saturation was achieved with 15 participants.

Recruitment and Data Collection

After the IRB approval, researcher contacted proposed study sites. Recruitment of the participants from urban WIC clinic A and B was started in July 2015. The researcher visited the study sites personally and met with directors and staff and discussed the study recruitment process. The eligibility criteria and screening questionnaires (Appendix A) and invitation letter (Appendix B) were given to the clinic staff. After completing the necessary student paper work at the study sites, recruitment was started by the clinic staff. All the interested participants were given the researcher contact information and a form to complete their initials and telephone number (Appendix C). Some participants gave the clinic staff their contact information so that the researcher could contact them.

One study site at a hospital affiliated women's clinic was later dropped from the study due to the lack of response from the office staff to complete the required student paperwork. Three more additional study sites were added to obtain the required sample for study. These include Rural A and B WIC clinics and university affiliated neonatal medical home. As some interested participants expressed their difficulty meeting in person with the interviewer due to cultural barriers, heavy work schedules or housing issues, telephone interview was added and was approved by the IRB.

Data collection was started in the beginning of August. Interested participants were contacted by the researcher and given a brief description of the study. Out of 27 participants who initially agreed for the study, 15 mothers enrolled in the study. The other potential participants changed their mind and decided not to enroll in the study. The interview was scheduled at a time and place that was convenient for the participants. Consent form (Appendix D) was explained by the researcher in person and informed consent was obtained prior to the interview. After the

informed consent obtained, participants filled out a demographic questionnaire. The interview was conducted using a semi-structured questionnaire. All the interviews were audio recorded. The researcher also took field notes of the interview and observations.

Four interviews were telephone interviews. These participants were not able to meet in person due to cultural barriers, tight work schedule and housing issues. Ten mothers were interviewed in their homes. One mother was interviewed at the WIC clinic. Interviews lasted for approximately 40 to 70 minutes. Initial member checking was done at the end of each interview which consisted of reviewing major points of the interview and asking for clarification or further description. Mothers were given a baby photo album (\$10 value) in appreciation for their participation at the completion of the interview.

In qualitative research, the researcher is the primary instrument for data collection and analysis (Merriman, 2009). By being the research instrument, the researcher becomes intimately involved with the participants, their stories and lives (Moore, 2008). The researcher can expand his/ her understanding through verbal and non-verbal communication, clarify and summarize information, check for accuracy, and explore unusual responses (Merriman, 2009). The researcher conducting qualitative research should have strong theoretical foundation, analytical skills, sensitivity to contextual factors and open-mindedness (Goldstein, 2003). Another critical competency that a qualitative researcher should possess is the 'understanding of self' (Goldstein, 2003). In reflexivity, the researcher has self- awareness of cultural, political, social, linguistic and ideological origins of one's own perspective (Patton, 2002). The researcher analyzed her own pregnancy experiences prior to conducting interviews. While preparing for the interview, the researcher also considered numerous aspects of the interview including the context, order of questioning, and language. Understanding one's own feelings, experiences helps the researcher

be aware of personal biases and the potential influence on the interaction with the participant (Goldstein, 2003).

Data collection in qualitative studies is directed towards discovering the who, what and where of participant experiences and events or their basic nature and shape (Sandelowski, 2000). In-depth data was collected through semi-structured interviews of individual participants that explored their view of the phenomenon of interest (Marshall & Rossman, 2011). The interviews were recorded and transcribed verbatim. The individual in-depth interview allowed the interviewer to delve deeply into social and personal matters (Dicicchio-Bloom & Crabtree, 2006). Qualitative research interviews are conversations with structure and purpose that are defined and controlled by the researcher. The aim of qualitative research is to understand a phenomenon from a subject's point of view and to uncover the meaning of their experiences (Kvale, 1996). The semi-structured interview begins with broad open-ended questions specific to the purpose of the study (Marshall & Rossman, 2011). The interview started with the question "Tell me about your pregnancy". This allowed a start to the conversation with pregnancy related experiences. Each participant was asked to complete a demographic form at the beginning of the interview (Appendix F). The purpose of the demographic questionnaire was to obtain general description of the characteristics of the participants in the study.

Semi-structured interview allows for a level of order on the topic and clarifies understanding through active listening skills (Marshall & Rossman, 2011). The interview questions were tested with the first two participants. The questions were modified and four questions were added based on this experience and the principles of emergent design (Appendix E). Question number 1 was modified to 'Tell me about your pregnancy'. Question number 15 was modified to 'What difficulties did you face in receiving support during pregnancy?'

Question Number 11) ‘Who was it that you were able to talk to about your day to day personal concerns during pregnancy?’ was removed as this was felt to be a redundant question. Four questions that were added include question number 2) ‘What does social support mean to you?’; 6) ‘Tell me about your baby’s birth’ 7) ‘What was it like to have a low birth weight baby?’ and 14) Tell me about the support you received during your pregnancy from your husband, your family, your friends, and your health care providers. The final interview guide had a total of 18 questions. Field notes were taken during the interview to supplement information gathered from the interview. The observation of physical setting, social interactions, activities, responses during the interview, direct quotations as well as the researchers’ own feelings and significance of what has been observed were also included in the field notes. Following IRB approval in May 2015, study enrollment and data collection were completed from July 2015 to January 2016.

Data Analysis

An inductive content analysis was the method of data analysis for this study. The aim of content analysis is to attain a condensed, broad description of the phenomenon (Elo & Kyngas, 2007). Qualitative content analysis is suited for this study as the purpose is to examine the patterns of perceived social support of women who had low birth weight babies. Qualitative content analysis moves farther into domain of interpretation in an effort to understand not only the manifest but also the latent content of data (Sandelowski, 2000).

The data analysis began after the completion of the first interview and continued throughout the data collection period until all data are thoroughly analyzed. Qualitative research is characterized by simultaneous collection and analysis of data where both mutually shape each other (Sandelowski, 2000). In qualitative content analysis, the researcher continuously modifies their treatment of data to accommodate new data and new insights of those data (Sandelowski,

2000). The three main phases of qualitative content analysis is preparation, organizing and reporting (Elo & Kyngas, 2008). The preparation phase starts with selecting the unit of analysis which can be a word, sentence, or a theme. The researcher will also decide whether to analyze latent content as well, such as posture, silence, or laughter of the participant. The researcher will also strive to make sense of the data. In the organizing phase, the process includes open coding, creating categories and abstraction. In open coding, notes and heading are written in the text while reading it. The headings are collected and categories are formed. In abstraction, categories are grouped into higher order headings or categories. Similar categories are grouped together to main categories (Elo & Kyngas, 2008).

The interviews were transcribed after the completion of each interview by the researcher or a professional transcriptionist. The researcher verified the accuracy of the transcription by listening to the recording and following along with the written transcript. Data were analyzed manually by the researcher. The words or phrases with the same meaning unit were identified as meaning units. The meaning units were condensed into codes. Codes were organized into categories. The categories were then grouped into patterns with the final development of overarching themes (Graneheim & Lundman, 2004).

Raw data were stored in the password protected computer. Only the researcher and the faculty mentors had access to raw data. The data were transferred between the researcher and mentor(s), as necessary, using KUMC secure file transfer. Participants' data in this study were given a code number to protect their identity. All the paper and electronic documentation will be secured and destroyed according to the record retention policies of University of Kansas Medical Center. Hard copies of all interviews will be stored for 15 years in a locked cabinet.

Trustworthiness and Methodological Rigor

The essential elements of trustworthiness in qualitative research are truthfulness, applicability, consistency and neutrality of an inquiry (Lincoln & Guba, 1985). The five criteria established by Lincoln and Guba (1985), credibility, dependability, confirmability, transferability, and authenticity were utilized to establish trustworthiness of the data analysis. Credibility refers to the idea of internal consistency and can be achieved by prolonged engagement with participants, persistent observation, triangulation, peer debriefing, negative case analysis and member checks (Lincoln & Guba, 1985).

Member checking, prolonged engagement with participants, triangulation and debriefing with faculty was used to ensure credibility. Member checking was done at the end of each interview. During member checking, researcher summarized the thoughts and ideas shared by participants. Participants were given an opportunity to clarify the meaning of the ideas shared at the end of the interview. Prolonged engagement with the participants allows an adequate understanding of the participant and establishes a relationship of trust (Lincoln & Guba, 1985). The researcher spent time with participants prior to, during and after the interview. This helped the researcher to establish a trust with participant and allowed time to collect in-depth data. Triangulation of the data using interview, observation and field notes enhanced the credibility of findings. Debriefing with faculty was conducted on a regular basis (approximately every two weeks) to search for alternative meanings in the data and to assist in the interpretation of findings. Thick description of the participants' experience as well as the context in which these experiences occurred was provided.

Dependability deals with the way in which the study conduct is consistent across time, researchers and analysis techniques (Morrow, 2005). Careful tracking of research activities and

keeping an audit trail that included detailed chronology of research activities, data collection and analysis, and development of categories and themes were maintained. The audit trail was examined by the faculty mentor. Confirmability refers to objectivity (Morrow, 2005). Maintaining an audit trail and careful examination by the faculty mentor enhanced confirmability. Reflexivity is another way of establishing confirmability. In reflexivity, the researcher has self-awareness of cultural, political, social, linguistic and ideological origins of one's own perspective (Patton, 2002). The researcher analyzed her own pregnancy experiences prior to the conduct of the interview. This enabled researcher to be aware of personal biases and potential interaction with the participant (Goldstein, 2003). Transferability is a direct function of similarity between the two contexts (Guba & Lincoln, 2001). It is the degree of congruence between sending and receiving contexts (Guba & Lincoln, 2001). The detailed information on the research methodology, context, process, participants and the researcher participant relationship was provided. This will help the reader to decide how the findings may transfer.

In establishing authenticity, researcher seeks reassurance that both the conduct and evaluation of research are credible with respect to wider political and social implications of research. The components of authenticity include fairness, ontological and educative authenticity and catalytic and tactical authenticity (Guba & Lincoln, 2001). Fairness is determined by the assessment of the extent to which all competing constructions have been accessed, exposed and taken into account in the evaluation report. Researcher under the guidance of faculty mentor provided an accurate description of participant experiences. Ontological and educative authenticity is determined by the extent to which individual constructions have been informed and understood (Guba & Lincoln, 2001). Member checking provided an opportunity for participant reflection and clarification of responses. Catalytic and tactical authenticity refers to

the extent to which action is taken for benefit of participants (Guba & Lincoln, 2001). Results of the study will be published to provide direction for future research and practice interventions for low-income pregnant women to improve birth outcome.

Ethical Considerations

Approval from the Institutional Review Board (IRB) of University of Kansas Medical Center and from the individual external sites was obtained prior to the conduct of the study. A letter of invitation and informed consent were given to all the potential participants of the study. The study was explained in detail and signed informed consent was obtained before data collection. The participants were informed that participation in the study was completely voluntary and they could withdraw from the study at any time during the study. Participants were informed that they would not benefit from the study directly but the information obtained from the study could be beneficial for pregnant women who are at high risk for receiving low levels of social support.

Risks of the study were considered minimal including potential emotional distress during sharing the social support experiences and breach of confidentiality. Participants were informed that they could stop sharing their experiences any time during the interview if they felt uncomfortable and could choose to withdraw from the study with no recourse. None of the participants experienced adverse or emotional reaction to the interview. Participants' data were given a code number to protect their identity. Participants' names were changed while reporting the study results to maintain confidentiality and anonymity. Information collected from the participants will be kept in a secured file cabinet. All the electronic documentation including transcriptions of recordings from each interview will be maintained in a secure file and destroyed according to the record retention policies of University of Kansas Medical Center. Data transfer

with the faculty mentors was done using KUMC secure file transfer. A code was assigned during the transcription, coding and data analysis process. When the study findings are published, no identifying information will be used.

Summary

Chapter three included a discussion of the methodology of the study including the study design, sample and setting. The rationale for selecting the qualitative descriptive design was explained. Data collection method and data analysis were discussed in detail. Measures of trustworthiness and methodological rigor were explained. This chapter concluded with a description of the ethical considerations.

Chapter Four: Findings

The purpose of this study was to examine the perceptions and experiences of social support during pregnancy among low-income women who had given birth to a LBW infant within the last nine months. In this chapter the findings of the study are presented. A description of the sample and the setting is first provided. Data were analyzed using inductive content analysis. Meaning units, codes, categories and overarching themes were identified inductively. Three major themes were revealed: mother's experience of pregnancy and perceived social support; multiple challenges faced by mothers during pregnancy; and availability of essential supports for mothers during pregnancy.

Sample and Setting

Participants for the study were recruited at three urban and two rural clinics of the Supplemental Nutrition Program for Women, Infants and Children (WIC) in a Midwest city and the neonatal medical home clinic at a university affiliated hospital. Mothers were identified for recruitment by the clinic personnel and interested participants were given the contact information of the researcher. Twenty-seven eligible mothers who initially expressed interest in joining the study were identified by the clinic personnel. Mothers who expressed interest in participating in the study were contacted by the researcher by telephone if their contact information was provided. Twelve mothers did not enroll for the study as they later decided not to participate. Fifteen mothers who enrolled in the study made up the final sample. All the 15 mothers who consented for the study completed the study.

In the urban WIC clinic A, of the five mothers who were initially identified and invited to the study, three enrolled and were interviewed for the study. In the urban WIC clinic B, out of

the five mothers who were identified and invited, two women were enrolled and were interviewed. Out of the five mothers who were invited from rural WIC clinic A, three were enrolled and were interviewed. In rural WIC clinic B, of the four mother who were invited, three were enrolled and were interviewed. The neonatal clinic at the University affiliated hospital identified three eligible mothers for the study. All three mothers, were enrolled and were interviewed. An additional mother was recruited from urban WIC clinic C and was interviewed. Data saturation was achieved with this last interview.

Eligible mothers who initially expressed an interest to join the study, but did not participate, were contacted by the researcher if their contact information was provided. Only one mother admitted that she was not interested in the study and the rest of them did not respond to the researcher requests despite multiple calls. See Table 1 for a description of the participants by setting.

Table 1

Mother's Participation in the Study

<u>Setting</u>	<u>No of Participants</u>
Urban WIC clinic A	3
Urban WIC clinic B	2
Rural WIC clinic A	3
Rural WIC clinic B	3
Neonatal clinic	3
Urban WIC clinic C	1

Demographic Characteristics of the sample. Details of the demographic data are given in Table 2. Mothers names have been changed to provide anonymity. The demographic data were

analyzed using Excel (Microsoft Excel, 2013). Ages of the participants ranged from 20 to 38 years. The mean age of the participants was 28 years (SD= 6.1). The majority of mothers were married, Caucasian, had at least a high school education, and stay-at-home mothers.

The birth weight of the babies ranged from 1 pound to 5 pounds, 8 ounces. The mean birth weight was 4.35 pounds (SD = 1.35). Seven infants were male and eight were females. Nine mothers had a vaginal delivery whereas six delivered by C-section. Nine of the babies were born pre-term or less than 37 weeks of gestation; the youngest gestational age was 25 weeks.

Thematic Findings

Data were analyzed using inductive content analysis consistent with a qualitative descriptive design. Interviews, observations, and field notes were analyzed to yield the overarching themes of the study. Themes with constituent categories and their definitions are given in Appendix G.

Women in this study expressed pregnancy as a positive experience even though it came with multiple challenges. Low birth weight of the baby was a stressful experience for majority of these mothers. Social support played an important role in these women's lives. Three themes emerged from the data analysis. Theme 1) Mother's experience of pregnancy and perceived social support; Theme 2) Multiple challenges faced by mothers during pregnancy; and Theme 3) Availability of essential supports for mothers during pregnancy.

Table 2

Demographic Characteristics (N=15)

Characteristic	Range or Frequency n (%)	Mean (SD)
Age of the mother	20 - 38	28(6.1)
Birth weight of the baby	1 - 5.5	4.35(1.35)
Marital Status		
Married	7(47)	
Living with the father of the baby	2 (13)	
Single	4 (27)	
Widowed	1 (7)	
Divorced	1 (7)	
Education		
10 th grade	1 (7)	
High School or equivalent	6 (40)	
Some college	1 (7)	
Certification	2 (13)	
Associate Degree	2 (13)	
Bachelor's degree	1 (7)	
Master's Degree	1 (7)	
Missing	1(7)	
Employment		
Full time	5(33)	
Part time	2(13)	
Stay at home	8(53)	

Table 2 (*continued*)

Characteristic	Range or Frequency n (%)	Mean (SD)
Ethnicity		
Hispanic	2 (13)	
Asian	2 (13)	
African American	4 (27)	
Caucasian	6 (40)	
Biracial	1 (7)	
Gestational Age		
Less than 37 weeks	9 (60)	
37 weeks and above	6 (40)	
Type of Delivery		
Vaginal	9 (60)	
C-section	6 (40)	
Sex of the baby		
Male	7 (47)	
Female	8 (53)	

Theme 1-Mother's experience of pregnancy and perceived social support. Women in this study perceived pregnancy, whether planned or unplanned, as a joyous experience and developed a natural bond to the unborn baby. Women were willing to face adversities to ensure the well-being of their babies and realized that support from others was essential. Women reflected on their overall feelings of pregnancy and their perceptions of social support during pregnancy. The constituent categories under this theme include the following. 1) Mother's feelings and readiness

for the pregnancy and 2) Mother's perceptions and satisfaction with social support during pregnancy.

Mother's feelings and readiness for the pregnancy. Women reported various reactions to the news of the pregnancy including excitement, happiness, worry and anxiety. Majority of the mothers discussed that their pregnancy was unplanned or unexpected. Although their pregnancies were unplanned, they reported the reaction to the pregnancy as excitement and happiness. Faith, who had an unexpected pregnancy explained,

...I don't know. I can't really say like, I mean I was excited...because my son was, my second child was 4 years old.... So it was a big gap.... I was not expecting it, but I was excited to...have another child, but I was ...because I already have my two.... I thought I was done...then another one came along.

Women expressed mixed reactions to the news of unexpected pregnancy. Some women discussed that they felt 'shocked' or 'scared'. Julia, a first time mother described, "I wasn't really scared. I was ...the first five minutes ...then I got excited. It kind of...things in my mind kind of switched over, like I went into mom mode and I just started planning and looking into future things." A few women had ambivalent feelings about how they reacted to the news of the pregnancy. Liz, a single first time mother expressed a mixture of emotions regarding her pregnancy. She had mentioned that she felt anxious or worried and at the same time was excited about her pregnancy, "I feel very excited...probably getting a little anxious.... I was...anxious and worried...."

A majority of the women reported that they recognized their pregnancy early, with just a few who recognized their pregnancy at a later stage. As Grace, a single working mother of three

children discussed, “I found out I was pregnant I was probably ...I thought I was close around 6 months”

Women reflected on the positive emotions as a result of pregnancy. The news of the pregnancy brought them excitement. As Alice described on seeing the results of her positive pregnancy test,

Beyond excited. I mean like I said we had been trying for so long and after taking 1000's and 1000's of pregnancy tests and them all being negative, whenever I took the one that said it was positive I didn't believe it....

Some women had expressed that feeling the baby's kicking and seeing the baby by ultrasound were amazing experiences as Liz described, “...when I first saw my daughter moving inside that was amazing, when I first got my ultrasound done the first time I was able to actually see her, I was really excited.” For a couple of women, waiting for the baby to come was a thrilling experience as expressed as “...waiting for her to come....” and “...just waiting to meet her...”

Besides the initial excitement and happiness, women had different feelings about their overall pregnancy. The overall feelings they had about their pregnancies ranged from having a ‘usual’ pregnancy or ‘calm’ pregnancy to feeling ‘weird’ or ‘different.’ As Pat, whose infant weighed less than 3 pounds at birth discussed, “Well, it was just weird. It was weird...the baby weighed like 2.6 something...that three month sonogram. And they said it's pretty much normal because it was three months.”

Mother's perceptions and satisfaction with social support during pregnancy. Mothers were asked about their understanding of social support during pregnancy. Women had different

conceptual understanding of the term social support. Some women identified the role of family and friends in social support as described by these two participants, “Well for me when you say social support, like, um, like friends and family give you more support....” “I would think family, friends...who were supportive while I was pregnant.”

One of the participants was also able to identify the role of co-workers and health care professionals in providing social support. Other women discussed the meaning of social support as the support that is given by people outside the family and friends. As Judy shared, “Um, when I think of social support I just think of any support that you would get outside of maybe family and friends or whatever.” For a couple of women, social support was just talking to others, “Just, you know, being able to talk to other people going through the same situation.”

Women were overall satisfied with the social support that they have received during pregnancy. Women who had the support from the child’s father expressed more satisfaction with the social support than those who did not have support of the child’s father. Khaja who had all her family members back in India but had good support from her husband discussed that she was 99% satisfied with the support she received during pregnancy. Maria who had good support from her child’s father discussed how the presence and interaction of her child’s father and with her family made a difference, “it’s like very satisfied with it. I didn’t expect... to get that much support. With my other pregnancies ...their dad was...like he didn’t really interact a lot with my family, so we were very distant.”

Women also attributed the source of social support as being important in their level of satisfaction. For example, one mother mentioned that she was very satisfied with the support she

received from her family and friends but only fairly satisfied from her child's father. As Liz shared, "My family I was very satisfied ...with my child's father...it was okay..."

Although women were overall satisfied with the support they received during pregnancy, they discussed what would have improved their support during pregnancy. Distance from the close family members was one of the barriers that some women felt as a major obstacle in receiving the support that they needed during pregnancy. Pat who had her family in Philippines felt that she would have received support from them if they were closer to her, "...the only thing that I was thinking about when I was pregnant is I just wish that my mom was here. You know, that's it."

Some women expressed their frustration with the lack of emotional support from the father of the baby (FOB). As Samantha, a single mother of three children, described,

You know, every time I'm telling him I'm in...I'm having contractions, he don't want to hear it. How come? I'm having a baby, idiot. He just...it just wasn't any emotional moral support, you know. That was just not something...I guess that's not something he's good at.

Relationships and communication with family members was another major barrier for some women. Grace who kept her pregnancy a secret from her mother discussed that she wished she did not hide her pregnancy from her mother, "If I wouldn't have kept it as a secret...and told my mom...it probably been a lot better...because with my all other kids my mom was there...all of them..." Lack of a good relationship with in-laws was also an issue for some women. Pat discussed how she wished she had a closer relationship with her in-laws, "I just also wish that if

my, you know, in-laws are more supportive, you know, I could probably use them to help, you know.”

Theme 2 Multiple challenges faced by mothers during pregnancy. Women reflected on the various challenges that they had to face during pregnancy and how it affected them physically and emotionally during their pregnancy. Constituent categories under this theme include 1) physical challenges; 2) an emotional roller coaster; 3) work related experiences; 4) life's financial burdens and 5) reactions and concerns of low birth weight baby.

Physical challenges. The physical challenges that these women had to face during pregnancy ranged from the minor physical symptoms during pregnancy to major health complications such as diabetic coma and pre-eclampsia. The majority of the women had experienced some type of gastrointestinal symptoms during pregnancy, including gastroesophageal reflux disease, morning sickness and nausea. Khaja, who had significant issues with acid reflux during pregnancy discussed, “I had big problem of digesting food...I have GERD, I told my GYN ...she kept me on medicine...the first three months it was very difficult....”

Most of the women reported fatigue during pregnancy. Bella, who had to take care of her 2 year old during her pregnancy described, “I was really tired quite a bit. I didn't really have morning sickness. I mean I got nauseous a lot but I didn't really vomit...” Some women expressed difficulty with doing household chores during pregnancy due to fatigue as described by Faith, “... even when standing up and doing the dishes for a while... I had to take a break, like I will get tired.” Other physical symptoms that were described by mothers include insomnia, flu like symptoms and back pain.

Bleeding during pregnancy was also reported by some women. Grace was not able to identify her pregnancy due to her continued menstrual periods during early pregnancy, "...it really didn't even feel like I was pregnant at all.... I did have my periods for...at least the first 3 months I was pregnant I continued to have my periods...so I didn't even think I was...." Maria, a single mother of four was able to identify her pregnancy at the early stage due to heavy bleeding, "I was bleeding more than a pad an hour. So um, I went and that's when I found out I was pregnant." Julia reported how bleeding during early pregnancy had affected her emotionally, "So I had some unusual bleeding within the first trimester that kind of frightened me."

Some women had multiple health issues during pregnancy. Alice who had a surprise pregnancy after trying to conceive for so many years reported that she had multiple health issues which made her pregnancy really hard, "Extreme nausea, I had sciatica, round ligament pain, pregnancy induced hypertension, and gestational diabetes." Judy who had underlying diabetes mellitus discussed how difficult it was for her to deal with the physical toll she had to face during pregnancy due to her health issues, "Um, yeah that was the hardest part, is just the physical toll, you know, that it took, cause I couldn't hardly do anything, I couldn't hardly eat anything." Nora who had Type 1 Diabetes Mellitus had diabetic coma three times during her pregnancy.

Pregnancy induced hypertension (PIH) and pre-eclampsia were common major health issues reported by women. Seven women reported pregnancy induced hypertension or pre-eclampsia. Leah who had a C-section at 25 weeks due to severe pre-eclampsia discussed how she was diagnosed with severe hypertension. "It actually just came on suddenly. I had my four-week appointment before that and my blood pressure was fine. I went into my next four-week appointment, which was St. Patrick's Day and my blood pressure was 195/95."

Some women reported premature rupture of membranes during pregnancy leading to pre-term birth. Grace discussed that she had not realized the premature rupture of membranes and she continued to work. A few mothers reported minimal physical symptoms during pregnancy as shared by Victoria who was a single mother of four children, “Um, just a little bit of morning sickness, but it wasn’t bad.”

An emotional roller coaster. Mothers described a variety of emotional experiences such as anxiety, depression, loneliness, fear, mood swings, sadness and worry during their pregnancy. Some participants attributed their mood swings to the physiological changes of pregnancy as described by Liz, “...I had a lot of mood swings... I will be happy one minute and the next minute I will be sad...so...it was only because I was pregnant...so didn’t worry about it.” One of the participants who had underlying depressive disorder discussed that she struggled with depression during pregnancy.

Women attributed their emotional distress to various stressors during pregnancy. Pat who had to be hospitalized due to her health issues towards the end of the pregnancy, described that being alone in the hospital contributed to her sadness. Grace discussed how her struggle as a single mother affected her emotionally, “Just keep it on the inside ... going to the bathroom and crying myself and then dry my face off ...and say I hurt myself or something, so people wouldn’t know I was crying about situations....”

Some women had major stressors during pregnancy that caused them to have emotional upsets. Samantha who lost her separated husband during her pregnancy discussed it was stressful for her to deal with her husband’s death and to raise her kids during pregnancy. Faith whose mother was diagnosed with cancer during pregnancy reported how it affected her

emotionally, "...I mean that the main concern was I had in my mind was my mom had cancer... the only thing that I had in my mind is, is she going to be around to see my baby...?" Grace who initially decided to give up the baby for adoption but later decided against it, discussed that it affected her psychologically during pregnancy.

Fear and anxiety about the baby was expressed by majority of the mothers. Nora who was a nursing student and expecting her first baby discussed that she kept worrying about her baby as she had episodes of diabetic coma during pregnancy.

While some women had to deal with major life stressors, a few of them reported emotional upsets from minor issues. Julia reported how people's comments regarding the size of her baby affected her psychologically, "I had a lady one time, I don't think she intended to come off as rude, but it hurt my feelings I was emotional, she was like, you know, questioning me are you eating enough? You need to eat more." A couple of mothers discussed they did not have any emotional issues during pregnancy.

Work Related Experiences. Out of the 15 mothers who were interviewed, ten mothers had a job during pregnancy. Four women had lost or quit their job during pregnancy or after having their babies and were staying at home to take care of their babies. Women discussed how work related stress had affected them emotionally and physically during pregnancy. Grace who had to work 16 hours a day, five days a week discussed how it affected her not receiving prenatal care, added to her poor nutritional intake and a missed relationship with her older children shared, "...a lot of the times I was missing my other two kids as well, because I didn't get to see them...."

Pat, a full time pre-school teacher had to work on a second job as a caregiver for a lady with cerebral palsy on her weekends, discussed it was physically strenuous to work long hours

during her pregnancy. Samantha who worked as a certified nursing assistant discussed that she had to leave work during her early pregnancy as it was physically strenuous.

Two women reported stressful work environment. They discussed how the negative comments from their supervisors affected them psychologically. Liz who worked at a warehouse discussed how she had to deal with negative comments from one of her supervisors throughout her entire pregnancy, "...the main guy in charge there was fine too but my direct supervisor had a problem with it so he was always constantly be saying stuff to me that makes it difficult for no reason..." Alice had to quit her job during the middle of the pregnancy due to continuous "harassment" from her work place. She discussed how stressful it was for her to deal with the "harassment" during her pregnancy, "Yeah. Oh yeah, very stressful. Very, very stressful job. But I was in sales." Victoria who is a single mother of four discussed it was stressful for her to lose her job unexpectedly after she had her baby.

Although it was stressful to work during pregnancy, one of the mothers pointed out the positive effects of working during pregnancy. Grace discussed that busy work during pregnancy kept herself engaged and she did not have time to think about her personal issues.

Life's financial burdens. Women described multiple financial burdens during their pregnancy. Finance was a major concern for majority of women predominantly among single mothers who had little or no support from the FOB. Liz who dealt with financial struggle because the FOB lost his job discussed how her poor finances caused a concern for meeting the material needs of her baby, "...the concern was her not having enough diapers, enough bottles, things of that nature, because I was the only parent working, so...I didn't have anything for her, I didn't have car seat nothing..."

Women who had good support from the father of the baby (FOB) reported less stress from dealing with financial issues. Amy's story was an exception to the above, even though she did have support from her husband, she discussed the limited income from her husband's disability was not enough to meet their monthly expenses. They managed their financial issues by borrowing money from payday loans as she described, "Um, we just basically had to live it day-by-day and we kept on having to get like Payday checks or Payday Loans." The effect of financial issues had affected the daily living needs such as housing, food and clothing. Two women discussed how they had to struggle during pregnancy as they did not have their own housing. Maria and her boyfriend who were living with her mother during her pregnancy discussed it being very crowded. Julia and her boyfriend had to depend on her grandparents for housing. She shared that she wished she had her own place to live. Most of the women who had financial struggle and hardships during pregnancy stated that they wished they had better financial support.

Some women were able to get food assistance from the state, which helped them meet their needs during pregnancy. One of the mothers who was not able to get food stamps through the state discussed that it was hard to meet her family's basic needs including clothing. Despite the financial hardships, a few mothers expressed that they did not want to ask for help as they felt that it was their responsibility. For a few mothers, finance was not a concern.

The availability and cost for transportation during pregnancy was not a concern for majority of mothers. The exception was Grace who had to be under house arrest during her pregnancy. This resulted from her driving on a revoked license and therefore needed help from her family for going to work during her house arrest. She also discussed how this affected her freedom during her pregnancy,

...while I was pregnant...I was on house arrest because my license was revoked, and I got caught driving on revoked, so they put me on house arrest.... I can just go to work and come home, and go to the grocery store, and come home, and that was all I did till 4 months I was pregnant with him I couldn't leave the house for nothing....

Nora, who was in nursing school during her pregnancy, had a one-way two-hour commute to her nursing school twice a week. She reported how draining it was for her to travel long hours during pregnancy: "Yeah, at the end or after class I didn't get done till 9:00 so I wouldn't get home until about 11:00. That was draining."

Reactions and concerns of low birth weight baby. The majority of mothers expressed concerns related to low birth weight of the baby. They experienced anxiety, worry and concern regarding the health of the baby during their pregnancy. Faith who had gestational diabetes reported that she always had small babies despite the doctors warning about having big babies. She expressed how she was frustrated about having small babies and wished there were more research in relation to the effect of gestational diabetes on low birth weight. Pat whose baby weighed 2 pounds 14 ounces at birth discussed it was very stressful to think about the weight of her baby during her pregnancy, "So I was very much stressful, you know, thinking about the weight of my baby."

A few women reported that it was totally unexpected to have a low birth weight baby. Judy whose baby weighed 4 pounds 13 ounces discussed she did not expect her baby to be small at birth as her ultrasound showed normal baby growth, "No. Nope, because they said that she was actually growing norm, at a normal, you know". Amy also reported a similar situation as her ultrasound showed her to have a normal birth weight baby.

Women reported initial shock and stress when seeing how small their baby was at birth. Liz who had a pre-term baby with a birth weight of 3 pounds 14 ounces discussed how she was scared to see her very small baby with all the different tubes in her, "...I was shocked, I was kind of scared to touch her because she had all kinds of tubes in her." Maria who always had big babies discussed she felt really different when she saw her small baby.

Leah who delivered a 1-pound baby at 25 weeks of gestation discussed she was not able to comprehend fully what was going on as she herself was sick. Victoria whose baby weighed 2 pounds 1 ounce discussed how she had to be strong for her baby, "Um, there were a lot of tears. But I just had to be strong for him."

Some mothers discussed how they were stressed as the baby could not come home immediately after birth. Samantha whose baby had to be in the NICU due to prematurity and low birth weight discussed how stressful it was for her to leave her baby in the NICU. Maria whose baby had to be in the NICU for 2 weeks said it was hard for her not to see him, "...So it was just hard not to see him, being there and have to eat through a feeding tube and all that stuff..."

A few mothers discussed that they were not upset about having a low birth weight baby. Khaja who had three other low birth weight babies discussed the low birth weight of the baby did not affect her as she always expected to see small babies.

Theme 3 Availability of essential supports for mothers during pregnancy. This theme explores the women's perceptions of their support system. Constituent categories include the following. 1) relationship and availability of the father of the baby, 2) family relationship and availability during pregnancy, 3) friends and other support during pregnancy and 4) health care experiences and provider support during pregnancy.

Relationship and availability of the father of the baby. The FOB was identified as a major source of support by the majority of the women. Out of the 15 mothers who were interviewed, 10 mothers had good support from the baby's father.

Khaja who has all her family members back in India discussed how her husband was the only support person during her pregnancy and delivery, "It comes with my husband only not with my family, all my family was in India." Similarly, Pat who had all her family back in Philippines discussed that her husband was the major source of support during pregnancy and delivery.

Women reported different kinds of support from the FOB including physical, financial and emotional support as shared by Bella who had good support from her husband during pregnancy, "Um, he's my support in everything."

Five women had little or no support from the FOB. Two of them reported that the baby's father denied their paternity. "Well his dad, he was with somebody else at the time, and he didn't want anything to do with it, he was telling me, it wasn't his baby...." (Grace). "Um, that he didn't want any part of it.... No. He didn't want to be on the birth certificate. Nothing." (Victoria). These two women had two opposing views on the lack of support from the baby's father. Grace discussed it was stressful for her to deal with the pregnancy and delivery experiences without the support of the FOB. Victoria thought it was less stressful not to have the FOB in her life.

Liz who was a first-time mother reported that she had good support from her baby's father initially with the pregnancy but the relationship became strenuous after he lost his job. She discussed that it was stressful because the baby's father was not able to support her financially.

Amy, a young mother of two had a unique story to share. Not only did she need to deal with her underlying depression, but also support her disabled husband who had post- traumatic stress disorder. Even though she reported her husband being emotionally supportive, she had to remind him to take care of himself during her pregnancy, "...cause of his PTSD he also has like problems of being depressed and so I always have to like remind him to take a shower because he just don't really care about the way he looks." She reported that it was more stressful for her to deal with her husband after she had the baby as her husband could not handle the baby's crying.

Samantha, a single mother discussed that even though her baby's father was financially supportive during her pregnancy, he was not as supportive as she wanted him to be after the baby's birth, "...and his father is not around like I would like him to be. He works on the road as a truck driver, so he's like not here... I'm just really at a point where I'm a single mom almost."

As identified above, women valued the support from FOB during their pregnancy and delivery. Those who did not have enough support from the FOB viewed pregnancy and delivery as more stressful experiences.

Family relationship and availability during pregnancy. Women identified family as an important source of support during pregnancy. The members of the family who provided support to the mothers included immediate family members such as parents, siblings and in-laws and second degree relatives such as grandparents, aunts and uncles. The most significant family support identified by the majority of the women were mothers and sisters. For women who did not have good support from the FOB, mother's and sister's support played a significant role in coping with stressors during pregnancy.

Grace who had no support from the FOB identified her sister as the major support person during her pregnancy. She discussed how her sister provided emotional and physical support during pregnancy and delivery. This relationship was essential for her since she kept this unplanned pregnancy from her mother so as not to burden her, "...I remember calling her [sister] sometime 2 or 3 '0 clock in the morning, because I am up just thinking, my mind is wandering... she would answer the phone...and that brought me and my sister closer than we ever been...."

Victoria who underwent a similar situation with no support from the FOB received good support from her parents during and after pregnancy. She discussed that her parents stepped in and helped her and her older kids when she lost her job and apartment. Liz who also did not receive enough support from the FOB discussed that her mother's support helped her during pregnancy and delivery.

While the majority of mothers had support from immediate family members such as parents and siblings, one mother had support from extended family members. Judy whose parents were deceased reported that she had good support from her siblings and other extended family members, "No, my parents are deceased, but it's my aunts, uncles, I have good supportive cousins, my sisters and brothers, my whole entire family."

The support provided by immediate family members included physical support, informational support, financial support and emotional support during pregnancy and delivery. Many women identified that family had a major role in providing emotional and physical support as expressed by Bella, "...like our family is there for like emotional support, whenever I had her, his family was there and my mom, I mean my mom too, but I mean they were there for emotional support... the most." Physical support that they received from their family members

included support with child care, meeting the material needs, cooking their favorite meals and help with transportation.

The other significant support people identified by few mothers were grandparents. Julia who stayed with her grandparents at the time of the interview discussed how initially her grandparents were not very supportive of her unexpected pregnancy but later helped her and her boyfriend through pregnancy and delivery, "...At the very beginning my grandparents were just kind of, well they were just looking into the future, but once things let up they became more easy going about it."

Mother, sister and sisters-in-law were also identified as a source of informational support by majority of women. Maria reported that she used to talk to her boyfriend's sister for health related questions as she is a registered nurse. Amy discussed that she used to talk to her mother and sister for health related questions, "...my mom had seven kids so my mom also helped. ...She had a really good experience with kids... And my sister would too, cause she has five kids...."

A few women also identified their older children as a source of support. Khaja reported her 11-year-old daughter used to help with household chores. Alice reported that her teenage girls 18 and 16 years used to help with house hold chores including cooking, "...so mostly it was my husband and my teenagers that did everything." Victoria, a single mother of four, declared that her children aged 15, 13 and 8-year-old, used to take care of her during her pregnancy.

Friends and other support persons during pregnancy. While the majority of the women identified family and father of the baby as key support persons, the role of friends, co-workers and religious support people were discussed by some women.

Friends. Friends were a source of emotional support for majority of women. Amy shared that she used to text and message her friends on a daily basis and it helped her calm down during pregnancy, “I mean they helped me like if I talked to them about like things that’s bothering me. They would always tell me that it’s okay and like help me calm down about financial problems.”

A few mothers acknowledged that their friends supported them with their physical and material needs. Alice discussed how she had a strong friendship circle and how her best friend helped with the material needs of her baby. Judy disclosed that she has very close friends who she considered like family and they would support her emotionally and physically.

Leah who had delivered a 1-pound baby at 25 weeks of gestation had a very interesting story to share. She and one her friends had pregnancy and delivery experience that were almost a mirror image to each other. They both had pre-eclampsia and had their babies delivered at 25 weeks and the babies weighed exactly 1 pound each. They had their babies around 12 days apart and the babies stayed in the hospital about the same amount of time. Leah described,

...We both were 25 weeks exactly. The only difference, and we both wound up pre-eclamptic, both babies were 1lb. The only difference is that they transferred me to KU Med and they kept her down here in Stormont Vail... Otherwise our pregnancies and our deliveries and everything that lead up to it were almost a mirror image to each other.

She discussed that it was helpful to talk to her friend regarding their pregnancy and delivery experiences and about their little babies. However, she also mentioned that it was hard for them not to compare their babies to each other.

Co-workers. Of the 10 mothers who had worked during their pregnancy, seven of them reported a positive working environment with supportive co-workers. The type of support that

they received from their co-workers included emotional support, support with their work load, financial support and informational support.

Grace who worked as a nursing assistant in a nursing home revealed that her co-workers did a fund raiser to meet her baby's expenses and one of her co-workers provided her emotional support while she was struggling to decide if she would give up her baby for adoption. Pat who used to work as a pre-school teacher discussed she had a supportive working environment and she was given some useful informational video tapes at her work place. Julia who used to work in a bakery discussed that her supervisor was very supportive of her pregnancy and was flexible with her health care needs. He reduced her working hours from 40 to 32 hours a week and was supportive of her emergency room visits during her pregnancy.

Two women reported a hostile working environment. Alice who had to quit her job during the middle of the pregnancy discussed how her co-workers stayed to themselves without talking to her, "...So most of my coworkers stayed to themselves because they felt like if they were to talking to me... they were going to get in trouble too, ...that's kind of how that place was, ...very negative, very rough place." Liz who also had to face a hostile working environment discussed that one of her co-workers was supportive of her. Victoria who lost her job after her delivery discussed that her co-workers were supportive of her pregnancy and they were available to talk to if needed.

Religious group support. Out of the fifteen mothers who were interviewed only two mothers reported religious group support during their pregnancy. Samantha reported that her church pastor provided her the counseling services that she needed during pregnancy, "I have a pastor that I talk to... Yeah. He's a great counselor. He deals with families and stuff. He's been doing

that for 20+ years, so he's a good person to reach out to and talk to." Alice reported that she had received financial help from church groups during her pregnancy.

Neighbors. None of the participants reported any support from the neighbors. The majority of the mothers did not even know who their neighbors were and a few reported they had very limited communication with their neighbors.

Instructor. Nora who was a nursing student reported exceptional support from her nursing instructor during her pregnancy. She discussed how her nursing instructor helped her to complete her course while she was going through her sickness during her pregnancy,

...she called me every day while I was in the hospital, checking on me, asking if I needed anything. She went above and beyond and got a hold of the Dean to make sure ...I could still finish... she actually herself set up everything online for me to do at the hospital.

Health care experiences and provider support during pregnancy. The majority of the women conveyed that they were very satisfied with the health care experiences and support that they received during pregnancy. The majority of the women had prenatal care available early on in pregnancy. A few women did experience difficulty in obtaining health care coverage. Pat reported how she did not have any health insurance prior to her pregnancy as she was unable to afford it. She had to buy health insurance after she got pregnant and was able to start prenatal care around 2-3 months of her pregnancy. Samantha reported that she did not have health insurance but was able to get prenatal care through free clinics. Towards the end of the pregnancy she obtained Medicaid and was able to have her baby delivered in a hospital. Except for one mother, all were compliant with prenatal care. Grace, who was a busy working mother did not have any prenatal care during her pregnancy because she had a tight working schedule.

She reported she was concerned about the health of the baby due to lack of prenatal care, "...I did have concerns about if something was going to be alright with him mentally and emotionally"

Women identified nurses, doctors and social workers as supportive health care providers during pregnancy and delivery. The majority of the women identified nurses as the key support health care professional during their pregnancy. They recounted that when they called in, nurses were always available to answer their health related questions as Khaja shared, "Ya, all the time they (nurses) helped me a lot of the times, then right away they called me and told me to take this medicine and take that." Leah whose baby weighed only 1 pound at birth was very appreciative of the NICU staff including nurses and doctors who helped with her baby's recovery, "...I think we have like the best staff and ...if I wasn't at KU...and the staff wasn't the way that they were...I don't think A (her son) would be here or be where he's out in his developmental wise..." Pat who had to be hospitalized for a month towards the end of the pregnancy due to hypertension discussed how she got checked by the practitioners at the hospital.

Even though the majority of the mothers were satisfied with the health care they received during pregnancy, one of the mothers was completely dissatisfied with the health care she received during pregnancy. She reported how she did not have her blood pressure checked accurately which lead to the delay in diagnosing her pregnancy induced hypertension. She also reported that she was not screened early for gestational diabetes. She expressed that she was frustrated with the care she received from her doctor's office during her pregnancy. She discussed how she wished her nurses and doctor took the time to listen to her concerns, "...[health providers] would have just been listening and actually taking the time to find out what

was really going on.” However, she was happy with the hospital experiences she had during her delivery.

Some women identified a social worker as an important health care professional support during pregnancy. Liz reported that she had a case worker assigned to her through her job and she could talk to her whenever she had questions.

Grace who initially decided to give up her baby for adoption described that her social worker was supportive of her throughout her pregnancy and also when she changed her mind and decided not to give baby up for adoption, “...when I called and told her (social worker) that I didn’t want to do it... ‘well it happens all the time, don’t worry... it happens more than we actually give babies up for adoption, parents tend to keep them’, That made me feel little better...”

Future Aspirations. Some women discussed their plan for future. The majority of them wanted to continue their education with the hope of securing their future as Amy shared, “...I want to be an accountant, that’s like my dream job is to be an accountant.” They also had suggestions for prospective mothers. Mothers declared that it was important for mothers to get the support from their family or friends during pregnancy as Nora suggested, “...just definitely have support, no matter what it is... cause I know there’s people out there that don’t have any other parent to talk to... , get friends, churches, something.”

Summary of Findings

The study findings provide an overview of the complex life challenges and the role of social support during pregnancy among women who have had low birth weight babies. Three themes emerged from the study are, mother’s experience of pregnancy and perceived social

support; multiple challenges faced by mothers during pregnancy; and availability of essential supports for mothers during pregnancy. Pregnancy is perceived as a joyous experience by mothers. Women from low socio economic status face multiple stressors that can affect their physical and emotional health during pregnancy. Social support from family, friends, health care providers and other significant people helped them to cope with multiple challenges. Women in this study expressed a desire to obtain social support from family, friends and other significant people in their life. The FOB and immediate family were identified as the major sources of support during their pregnancy.

Chapter Five: Summary, Discussion, Implications, Conclusion and Recommendations

The purpose of this study was to examine the perceptions and experiences of social support during pregnancy among low-income women who had given birth to a LBW infant within the last nine months. Data collection was guided by two research questions,

2. How do mothers describe their perception of social support during their recent pregnancy?
3. What were mothers' experiences of social support during their recent pregnancy?

An understanding of the mothers' experiences and perceptions was obtained through participant description and further synthesized using inductive data analysis.

Summary of Findings

The three themes that emerged from the study data were: 1) mother's experience of pregnancy and perceived social support; 2) multiple challenges faced by mothers during pregnancy; and 3) availability of essential supports for mothers during pregnancy. Pregnancy was perceived as a joyous experience by the mothers. The natural bond of the mother to the unborn baby provided the motivation to face the multiple challenges whether physical, emotional or financial during pregnancy. The infant's low birth weight was an additional stressor to the mothers because they experienced anxiety, worry and concern regarding the health of the infant. A majority of mothers discussed their concerns and stress about the growth and health of their baby during their pregnancy. A few mothers reported that it was totally unexpected to have a LBW infant. Women reported initial shock and stress when they saw their small infant.

Women discussed in-depth about the availability of the support system during their pregnancy. Social support received by the mothers varied depending on the relationship with father, relationship and availability of family members, other available support network including friends, co-workers and religious support. The majority of the women expressed a desire to obtain social support from family, friends and other significant people in their life. The father of the baby (FOB) was identified as a major source of support by the majority of the women. Women who had little or no support from the FOB reported increased stress during pregnancy. Family was another important source of support during pregnancy. The most significant support from family members identified by women were the mother and sister.

Summary of Themes Relative to Research Questions

Research question one asked ‘How do mothers describe their perception of social support during their recent pregnancy?’ This question was partially answered by the first theme “Mother’s experience of pregnancy and perceived social support”. Mothers’ feelings and readiness for pregnancy, conceptual understanding of social support and their overall satisfaction of social support during pregnancy are reflected in this theme. Women in this study perceived pregnancy as a joyous experience and were willing to take the multiple life challenges for the well-being of the baby. Women reflected on the importance of social support during pregnancy.

The second theme “Multiple challenges faced by mothers during pregnancy” also answered this question. Women reflected on the various challenges they faced during their recent pregnancy. Participants described in-depth the physical, emotional, work related, financial burdens and concerns prior to the birth of their low birth weight babies. Women shared the difficulties in dealing with these challenges during their pregnancy. Physical challenges including the various physical illnesses that women faced during pregnancy ranged from minor

health issues to major health problems. Emotional experiences described by the participants included anxiety, depression, loneliness, fear, mood swings, sadness and worry. Women discussed multiple work-related challenges during pregnancy including harassment in the work place, work related stress and physical strain from work. The majority of the women faced financial hardships and struggle during pregnancy. Women who anticipated delivery of a LBW, infant expressed anxiety, worry and concern regarding the health of the infant during their pregnancy and in the postpartum period. Implicit in this discussion was the role of social support to overcome these challenges. The third theme “Availability of essential supports for mothers during pregnancy” answered this question by describing the available support systems during pregnancy including the FOB, family, friends, and healthcare providers and other available support.

Research question two asked “What were mothers’ experiences of social support during their recent pregnancy?” Theme one answered this question by describing the overall satisfaction with each mother’s social support during pregnancy and the barriers to receiving the social support during pregnancy. Women who had the support from the child’s father expressed more satisfaction with the social support than those who did not have support from the child’s father. Women also identified what would have improved their support during pregnancy. Distance from the close family members, lack of emotional and financial support from the FOB, and relationships and communication with family members were some of the barriers to receiving the social support.

The third theme “Availability of essential supports for mothers during pregnancy” fully captures the answer to question two. The support from the FOB was identified as crucial by women. Mothers who did not have adequate support from the FOB identified pregnancy and

delivery as stressful experiences. Support from immediate and extended family members were also identified as important sources of support by mothers. Support from the mother and sister played a significant role in coping with stressors during pregnancy. The majority of the women identified friends as a source of emotional support. Women also identified nurses, doctors and social workers as supportive health care providers during pregnancy and delivery.

Discussion

The findings of the study extend knowledge on pregnancy related social support experiences of low-income women who have had LBW babies. The study findings provided an overview of the complex life challenges among women at risk for low social support. Women from low socioeconomic status face multiple stressors that can affect their physical and emotional health during pregnancy. A majority of the women faced additional stress in anticipation of a LBW infant during their pregnancy. Women had multiple cumulative stressors during pregnancy that may have influenced the pregnancy outcome. Social support from family, friends, health care providers and other significant people helped them to cope with multiple challenges. Social support therefore, may have a buffering role in reducing the impact of stressors during pregnancy. As per the buffering model, social support protects the person from potentially pathogenic influence of stressful events. (Cohen & Wills, 1983).

The participants of the study were a diverse group in terms of education, cultural and ethnic orientation, available support system and the unique physical and emotional challenges they faced during pregnancy. Each woman had unique stressors and differing levels of social support during their pregnancy. While some women expressed satisfaction with the level of limited support that they received during pregnancy, others expressed their desire to have obtained more support. These women were from the low socioeconomic group as defined by

study criteria. However, there was some variation in respect to their economic status. The perception of the social support seems to be influenced by the unique challenges, individual personality, family relationships and individual values and belief system. While these differences in their social support perception exists, they shared pregnancy related social support as centered around the FOB, family members, friends, health care providers and other significant persons in their life. Regardless of their challenges and diversity, women perceived pregnancy, motherhood and child birth as joyous experiences. Women emphasized the importance of social support during their pregnancy. Women also identified a major source of social support during their pregnancy. For some women, the major source was the FOB, while others it was the mother or the sister. Women who did not receive adequate social support from the family or the FOB expressed more frustration and turned to their female kin, i.e. mother or sister, for support. Social support whether provided by family, friends or other significant people helped these mothers to have an overall positive outlook.

In addition to the multiple challenges as a result of low socioeconomic situation and pregnancy, the mothers of this study faced additional unique challenge of a low birth weight infant. Despite multiple adversities, these mothers exhibited an endurance and adaptability to overcome these challenges and aspirations for a positive and brighter future.

Study findings in the context of current evidence. Findings of the study share similarities with previous research. Women in this study identified the support from the FOB as crucial. The qualitative study by Chongo and Ngoma (2014) reported similar findings where women reported that they wanted emotional and financial support from their husbands.

Mothers in this study shared that the social support from female relatives, mainly mother and sister, was significant, especially among women who did not have good support from the

FOB. This finding is similar to the results of the ethnographic study by Fleuriet (2009) among immigrant women from Mexico. The participants emphasized closed intergenerational ties among female kin during pregnancy (Fleuriet, 2009).

The FOB and female relatives including mothers and sisters were identified as the major sources of support during pregnancy in this study. This is similar to the findings by the qualitative study by Edmonds et al. (2011) where sources of social support identified by pregnant women were mothers, mothers-in-law, sisters, sisters-in-law and husbands. Darvill, Skirton and Farrand (2010) also reported that the different sources of personal support identified by women were mothers, partners and peers.

Women who did not have enough support from the FOB expressed their frustration and reported more stress during their pregnancy. This finding is consistent with the study finding by Darvill et al. (2010) where lack of support led some pregnant women to feel more vulnerable at different stages of maternal transition. For these women feeling supported seemed to facilitate confidence in their new perception of self.

Women in this study expressed a desire to obtain social support from family, friends and other significant people in their life. This is in contrast to the study findings by Fleuriet (2009) where women's desire for pregnancy related social support fell along a spectrum of desire, ambivalence and lack of desire. Therefore the present study reveals the significance of social support during pregnancy.

Concept of social support. The findings of the study can be viewed in the context of the social support concept proposed by House (1981). House explains that social support is a subjective or perceived experience. The four forms of social support labeled by House (1981) are

emotional, instrumental, appraisal and informational support. Each form of social support was evident in this study.

Emotional support that involves providing empathy, caring, love, and trust is the most important form of social support (House, 1981). Women in this study discussed the significance of emotional social support provided by the FOB, family and friends. The concept of emotional support as described by mothers was ‘someone to talk to’ or ‘someone who listens to their problems’.

Instrumental support involves tangible behaviors such as provision of money, labor, time and modifying environment (House, 1981). Women in this study identified instrumental support as receiving physical support for their physical needs and financial support for meeting their financial needs. Physical support women received included support with child care, meeting the material needs, cooking their favorite meals and help with transportation. The instrumental support was mainly received from the FOB and the immediate family members.

Informational support involves providing advice, suggestions, directives and information (House, 1981). Mothers talked about obtaining advice and guidance from their female relatives such as mothers, sisters and sisters in law. Other important source of informational support identified were health care providers such as nurses, doctors and social workers.

Appraisal support involves provision of information that is relevant to self-evaluation such as feedback, affirmation and social comparison (House, 1981). Women in the study reported appraisal support as receiving positive encouragement and appraisal from family members and health care providers.

Provision of social support by family, friends and other people in their social network helped women to cope with multiple challenges that they faced during pregnancy. Social support played a protective role in these women's lives. This finding supports the stress buffering model of social support. Buffering model of social support postulates that social support protects a person from stressful events by different mechanisms (Cohen & Wills, 1983). Support may intervene between the stressful event and a stress reaction by preventing a stress appraisal response. The perception that others will provide necessary resources may strengthen one's ability to cope and therefore prevent a particular situation being perceived as stressful. Support may intervene between the experience of stress and the onset of pathological outcome by reducing or eliminating stress reaction or by directly influencing the physiological process. Support may alleviate the impact of stress by providing a solution to the problem, by reducing the perceived importance of the problem or by providing a distraction from the problem (Cohen & Wills, 1983).

Strengths of the Study

This is the first study that explored the pregnancy related social support experiences of women who have had LBW infants. A major strength of the study is its qualitative approach, which provided an opportunity for women to express their social support experiences in-depth. Women with low-income are at higher risk of delivering LBW babies (Blumeshine et al., 2010). Social support is a complex phenomenon that is influenced by social interactions and social networks (House, 1981). This study provides a rich description of the perceived experiences of this complex phenomenon within this vulnerable population, low-income women who had LBW infants, and therefore helps to fill the existing gap of literature.

The interviews were conducted in mothers' homes that allowed researcher to observe them in their natural setting. Engagement with the participants and member checking allowed the researcher to clarify responses with the women and collect thick description of their social support experiences which enhanced the credibility of the findings. While these women described their multiple challenges that they faced during pregnancy, they also described how social support helped them to overcome these challenges. This understanding leads to new interpretations of how social support influences low-income pregnant women and the unique aspects of their social support needs.

Limitations of the Study

The study focused on the social support experiences of low-income women who had LBW infants. Therefore the study findings cannot be generalized to a population who are in the middle or higher socio- economic status. The interviews were conducted within a time period of up to nine months after the birth of their infants. There is a potential for recall bias as the mothers described their pregnancy experiences. Maternal recall is influenced by study design, selection criteria, population of interest, and method of maternal assessment (Stuart et al, 2013). Out of the 15 participants who were interviewed, four of them were telephone interviews. There is a potential for loss of contextual and non-verbal data due to absence of visual cues in telephone interviews (Novick, 2008). While the researcher made every effort to obtain quality data including member checking and engagement with participants, the telephone interviews might have affected the ability to probe and therefore gather more in-depth data.

Implications for Practice and Research.

This is the first study that examined the pregnancy related social support experiences of women who have had LBW infants. Women living in low socioeconomic conditions are at increased risk for multiple adversities that may affect their health and the birth outcome. Social support may play a buffering role in minimizing the impact of adverse life situations.

This study revealed several implications for clinical practice and research. Health care professionals should be educated about the importance of social support during pregnancy. Interventions that provide social support for women during pregnancy need to be implemented at the primary health care level. Women who are from a low socioeconomic group face multiple challenges during pregnancy. In this study, women's support system included the FOB, family members, friends, and other significant people.

Social support could also be integrated into the WIC program where women from low socioeconomic group primarily receive nutritional support. Social support during pregnancy has a positive influence on the prenatal health behavior and prenatal care. This has been evident in previous research studies. Social support from partner was positively correlated with adequacy of prenatal care whereas social support from others correlated positively with prenatal health behaviors in the descriptive correlational study by Schaffer and Lia- Hoagberg (1997). Health care providers should assess the support system of women during their pregnancy visits and plan for individualized interventions to strengthen the support system during pregnancy.

Nurses can assess women's availability of support system and their social networks during their initial prenatal visit. FOB should be encouraged to attend prenatal visits. During these prenatal visits nurses or other health care providers should communicate the unique support

needs during pregnancy. For women who do not have a supportive partner, nurses can encourage support from other family members such as mother, sister or a close friend. Women should be encouraged to communicate to their partners or other family members about their support needs during pregnancy.

Home visiting is another strategy that has proven to provide effective social support for women. The qualitative study to explore mother's perspective of an intensive home visiting program by Paton, Grant and Tsourtos (2013) revealed that social support by home visiting helped mothers make positive changes and acted as a buffer against stressors. Nurse Family Partnership (NFP) program is a nurse home visitation for low-income first time mothers during their pregnancy that has proven to be successful (Olds et al., 2013). NFP is designed to improve prenatal health outcomes, child health and development and families' economic self-sufficiency and maternal life course development (Olds et al., 2013). NFP provides a model for delivering services to a vulnerable group of population and this can be adapted by primary health providers to deliver social support to low-income pregnant women.

Nurses should also plan health education sessions for pregnant women and their families. Family and friends should be encouraged to attend these education sessions. These education sessions should include information about the social support needs of women and how to provide effective support during pregnancy.

Women in this study identified friends as a source of emotional support. A peer group support model that constitutes pregnant women with similar health or economic issues could be implemented. This support group may provide additional support for women and empower them to face multiple challenges during pregnancy. Centering Pregnancy is a model of group prenatal care that offers physical assessment, education and peer support in one group space. Women in

small groups of eight to twelve engage in facilitated discussion and socialization as per this model (Rotundo, 2011).

Literature reveals the positive effects of group social support during pregnancy. In the intervention study by Mundell et al. (2011) among HIV (Human Immunodeficiency Virus) diagnosed pregnant women, structured support group showed improvement in adaptive coping strategies and self-esteem compared to the control group. Studies have also shown the positive effects of group prenatal care. In the mixed method study by Heberelein (2014) to compare the effects of group prenatal care to individual prenatal care on women's psychosocial outcome, women described improved relationships with baby's father resulting from the group prenatal education. Women in group prenatal care had better psychosocial outcomes compared to individual care in the randomized controlled trial by Ickovics et al. (2007). Women reported more prenatal care knowledge, felt more prepared for labor and delivery and had significantly higher satisfaction with prenatal care (Ickovics et al., 2007). Several benefits associated with group prenatal care are improved birth outcomes, improved patient satisfaction, improved patient knowledge and readiness for labor and infant care, high breast feeding initiation rates and improvement in racial disparities with regard to maternity outcomes and cost-effective care (Rotundo, 2011).

This study examined the overall perception of pregnancy related social support experiences of low-income mothers of LBW infants. Data obtained in this study depended on the women's ability to recall their pregnancy experiences. A similar study could be conducted among women during their pregnancy. Future studies could explore the specific psychosocial support needs of low-income women. Women in this study described multiple challenges during their pregnancy. Further qualitative studies could focus on these unique challenges during their

pregnancy. Two participants of the study were immigrants and expressed the difficulty in receiving social support as they had their immediate family members overseas. A study of the social support experiences of immigrant women during their pregnancy could be conducted to explore their unique social support needs.

The study revealed that there may exist a relationship between social support and birth outcome. Several observational studies and a few of the interventional studies showed a positive effect of social support on birth outcome (Abadi et al., 2013, Feldman et al., 2000, Hobel et al., 2008). Future studies should explain why this relationship exists and the specificity of its links. Intervention studies that assess the effectiveness of various social support interventions on birth outcome would be beneficial. Studies that determine when and how to provide support during pregnancy should be conducted.

Further qualitative research that explores the various ways of providing social support to pregnant women by the family and community is necessary. A similar study among a larger group representative of the national population may provide additional information on the dynamics of social support and its effect on the birth outcome.

Conclusion

This study provided rich description of the experiences of low-income pregnant women who had LBW infants. It revealed the unique challenges of these women and the significance of social support during pregnancy. The potential to influence the birth outcome depends on what specific social support intervention will be most effective in reducing their unique challenges. Social support interventions should be tailored to meet the individualized needs. Continuing to focus on social support interventions during pregnancy will empower these women to face major

adversities and improve the birth outcome. Health care practices should focus on improving the social support of pregnant women with emphasis on marginalized or vulnerable populations.

References

- Abadi, M.N.L., Ghazinour, M., Nygren, L., Nojomi, M., & Ritchter, J. (2013). Birth weight, domestic violence, coping, social support and mental health of young Iranian mothers in Tehran. *The Journal of Nervous and Mental Disease*, 7, 602-608.
- Acevedo-Garcia, D., Soobader, M.J., & Berkman, L.E. (2005). The differential effects of foreign-born status on low birth weight by ethnicity and education. *Pediatrics*, 115, 20-30.
- Almeida, J., Mulready-Ward, C., Bettgowda, V.R., & Ahluwalia, I.B. (2014). Racial/ ethnic and nativity differences in birth outcomes among mothers in New York City: The role of social ties and social support. *Maternal Child Health Journal*, 18, 90-100.
- America's children: Key national indicators of well-being, 2013. (n.d.). Pre-term and low birth weight. *Childstats.gov*. Retrieved from <http://www.childstats.gov/americaschildren13/health1.asp>
- American Public Health Association (2014). *Reducing racial/ ethnic and socio-economic disparities in pre-term and low birth weight births*. Retrieved from <http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1326>
- Appleton, J., & King, L. (1997). Constructivism: A naturalistic methodology for nursing inquiry. *Advances in Nursing Science*, 20, 13-22.
- Bailey, B.A., & Byrom, A.R. (2007). Factors predicting birth weight in a low-risk sample: The role of modifiable pregnancy health behaviors. *Maternal & Child Health Journal*, 11, 173-179.

- Barker, C., Pistrang, N., & Elliott, R. (2002). *Research methods in clinical psychology: An introduction for students and practitioners*. England: John Wiley & Sons, Ltd.
- Behrman, R.E., & Butler, A.S. (2007). *Pre-term birth: Causes, consequences and prevention*. Available from http://www.nap.edu/catalog.php?record_id=11622
- Bener, A., Salameh, K.M.K., Yousafzai, M.T., & Saleh, N.M. (2012). Pattern of maternal complications and low birth weight: Associated risk factors among highly endogamous women. ISRN. *Obstetrics and Gynecology*, 2012, 1-8.
- Blumenshine, P., Egerter, S., Barclay, C.J., Cubbin, C., & Braveman, P.A. (2010) Socioeconomic disparities in adverse birth outcomes. A systematic review. *American Journal of Preventive Medicine*, 39, 263-272.
- Borders, A. E., Grobman, W. A., Amsden, L. B., & Holl, J. L. (2007). Chronic stress and low birth weight neonates in a low-income population of women. *Obstetrics and Gynecology*, 109, 331-338.
- Brunton, P.J. (2013). Effects of maternal exposure to social stress during pregnancy: consequences for mother and offspring. *Reproduction*. 146, 175-189.
- Bryce, R.L., Stanley, F.J., & Garner, J.B. (1991). Randomized controlled trial of antenatal social support to prevent preterm birth. *British Journal of Obstetrics and Gynecology*, 98, 1001-1008.
- Bullock, L.F.C., Browning, C., & Geden, C. (2002). Telephone social support for low income pregnant women. *Journal of Obstetrics, Gynecologic and Neonatal Nursing*, 31, 658-664.

- Byrs-Craven, J., & Massey, A.R. (2013). Lean on me: Effect of social support on low socio-economic status pregnant women. *Nursing & Health Sciences*, 15, 374- 378.
- Campos, B., Schetter, C.D., Abdou, C.M., Hobel, C.J., Glynn, L.M., & Sandman, C.A. (2008). Familialism, social support and stress: Positive implications for pregnant Latinas. *Cultural Diversity and Ethnic Minority Psychology*, 14, 155-162.
- Carolan, M., & Frankowska, D. (2011). Advanced maternal age and adverse perinatal outcome: A review of the evidence. *Midwifery*, 27, 93-801.
- Centers for Disease Control and Prevention (2011, March 08). *Pediatrics and Pregnancy. PNSS Health Indicators*. Retrieved from http://www.cdc.gov/pednss/what_is/pnss_health_indicators.htm
- Centers for Disease Control and Prevention (2012, June 06). *Reproductive and Birth Outcomes. Low Birth Weight and Environment*. Retrieved from <http://ephtracking.cdc.gov/showRbLBWGrowthRetardationEnv.action>
- Centers for Disease Control and Prevention (2014, August 12). *Infant Mortality*. Retrieved from <http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/InfantMortality.htm>
- Centers for Disease Control and Prevention (2014, October 30). *Pre-term Birth*. Retrieved from <http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PretermBirth.htm>
- Chongo, C., & Ngoma, C. M. (2014). Pregnant women's perceptions of provision of social support during pregnancy and child birth. *Standard Research Journal of Nursing and Midwifery*, 1, 1-5.

Cohen, S. & Wills, T.A. (1983). Stress, social support and the buffering hypothesis.

Psychological Bulletin, 98, 310-357.

Colen, C. G., Geronimus, A. T., Bound, J., & James, S. A. (2006). Research and practice.

Maternal upward socioeconomic mobility and black-white disparities in infant birth weight. *American Journal of Public Health*, 96, 2032-2039.

Collins, J.W., David, R.J., Handler, A., Wall, S., & Andes, S. (2004). Very low birth weight in

African- American infants: The role of maternal exposure to interpersonal racial discrimination. *American Journal of Public Health*, 94, 2132-2138.

Dailey, D.E. (2009). Social stressors and strengths as predictors of infant birth weight in low

income African-American women. *Nursing Research*, 58, 340-347.

Darvill, R., Skirton, H., & Farrand, P. (2010). Psychological factors that impact on women's

experiences of first time motherhood: A qualitative study of the transition. *Midwifery*, 26, 357-366.

Dejin-Karlsson, E., &Ostergern, P. (2004). Country of origin, social support and the risk of small

for gestational age birth. *Scandinavian Journal of Public Health*, 32, 442- 449.

Dermont-Heinrich, C.M., Hawkes, A.P., Ghosh, T., Beam, R., &Vogt, R.L. (2014). Risk of very

low birth weight based on prenatal periods of risk. *Public Health Nursing*, 31, 234-242.

Dicicco-Bloom, B., & Crabtree, B.F. (2006). The qualitative research interview. *Medical*

Education, 40, 314-321.

Dole, N., Savitz, D.A., Hertz-Picciotto, Siega-Riz, A.M., McMahon, M.J., & Buekens, P. (2003).

Maternal stress and preterm birth. *American Journal of Epidemiology*, 157, 14-24.

- Domian, E. W. (2001). Cultural practices and social support of pregnant women in a northern New Mexico community. *Journal of Nursing Scholarship*, 33, 331-336.
- Dyer, J. M., Hunter, R., Murphy, P.A. (2010). Relationship of social network size to infant birth weight in Hispanic and non-Hispanic women. *Journal of Immigrant and Minority Health*, 13, 487-493.
- Edmonds, J.K., Paul, M., & Sibley, L.M. (2011). Type, content and source of social support perceived by women during pregnancy: Evidence from Matlab Bangladesh. *Journal of Health Population and Nutrition*, 29, 163 -173.
- Elliott, R., & Timulak, L. (2005). Descriptive and interpretive approaches to qualitative research. In J. Miles, & P. Gilbert. (Eds.), *A handbook of research methods for clinical and health psychology* (pp. 147-159). UK: Oxford University Press.
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62, 107-115. doi:10.1111/j.1365-2648.2007.04569.x
- Elsenbruch, S., Benson, S., Rucke, M., Rose, M., Dudenhausen, J., Pincus-Knackstedt, M.K., . . . Arck, P.C. (2007). Social support during pregnancy: Effects on maternal depressive symptoms, smoking and pregnancy outcome. *Human Reproduction*, 22, 869-877.
- Feldman, P.J., Dunkel-Schetter, C., Sandman, C. A., & Wadhawa, P.D. (2000). Maternal social support predicts birth weight and fetal growth in human pregnancy, *Psychosomatic Medicine*, 62, 715-725.
- Fleuriet, K.J. (2009). Problems in the Latina Paradox: Measuring social support for the pregnant immigrant women in Mexico, *Anthropology and Medicine*, 16, 49-59.

- Frederick, I. O., Williams, M. A., Sales, A. E., Martin, D. P., & Killien, M. (2008). Pre-pregnancy body mass index, gestational weight gain, and other maternal characteristics in relation to infant birth weight. *Maternal Child Health Journal, 12*, 557-567.
- Goldenberg, R.L., & Culhane, J.F. (2007). Low birth weight in the United States. *American Journal of Clinical Nutrition, 85*, 584- 590.
- Goldstein, A. (2003). Researcher on the couch. Is “understanding the self” critical for qualitative research? *Nyhedsbrevet, 35*, 14-20.
- Gray, S.C., Edwards, S.E., Schultz, B.D., & Miranda, M.L. (2014). Assessing the impact of race, social factors, and air pollution on birth outcomes: a population based study. *Environmental Health, 13*, 1- 8.
- Grisaru-Granovsky, S., Reichman, B., Lerner-Geva, L., Boyko, V., Hammerman, C., Samueloff, A., Schimmel, M. S. (2012). Mortality and morbidity in pre-term small for gestational age infants: a population based study. *American Journal of Obstetrics and Gynecology, 206*, 150, e1-7.
- Guba, E.G., & Lincoln, Y.S. (2001). Guidelines and checklist for constructivist evaluation. *Evaluation Checklist Project. 1 -15*.
- Hamilton, B.E., Martin, J.A., Osterman, M. J. K., Curtin, S.C., & Mathews, T.J. (2014). Births: Final data for 2014. *National Vital Statistics Report. 64*(12), 1 -64.

- Harley, K., & Eskenazi, B. (2006). Time in the United States, social support and health behaviors during pregnancy among women of Mexican descent. *Social Science Medicine*, 62, 3048-3061.
- Heberlein, E. (2014). The Comparative Effectiveness of Group Prenatal Care on Women's Psychosocial Health. (Doctoral dissertation). Retrieved from <http://scholarcommons.sc.edu/etd/2592>
- Hobel, C.J., Goldstein, A., & Barrett, E.S. (2008). Psychosocial stress and pregnancy outcome. *Clinical Obstetrics and Gynecology*, 51, 333-348.
- Hodnett, E.D., Fredericks, S., & Weston, J. (2010). Support during pregnancy for women at risk for low birth weight babies (review). *The Cochrane Collaboration*. John Wiley & Sons, 1-49.
- House, J. S. (1981). *Work, stress and social support*. Reading, MA: Addison-Wesley.
- House, J.S. (1987). Social support and social structure. *Sociological Forum*, 2, 135-146.
- Ickovics, J. R., Kershaw, T. S., Westdahl, C., Magriples, U., Massey, Z., Reynolds, H., & Rising, S. S. (2007). Group Prenatal Care and Perinatal Outcomes: A Randomized Controlled Trial. *Obstetrics and Gynecology*, 110(2 Pt 1), 330–339.
<http://doi.org/10.1097/01.AOG.0000275284.24298.23>
- Kaushal, S.K., Misra, S.K., Gupta, S.C., & Singh, R. (2012). A study of maternal factors and birth weight in a border district of Uttar Pradesh. *International Journal of Community Health*, 24, 86-90.

- Kehinde, O.A., Njokanma, O.F., & Olanrewaju, D.M. (2013). Parental socio-economic status and birth weight distribution of Nigerian term new-born babies. *Nigerian Journal of Pediatrics*, 40, 299-302.
- Kim, Y.A., Choi, S. Y., & Ryu, E. (2010). Social support, stress and practice of prenatal care in married immigrant women in Korea. *Journal of Transcultural Nursing*, 21, 325-3.
- Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. Sage Publications, Thousand Oaks, California.
- Langer, A. (2014). Support during pregnancy for women at increased risk of low birth weight babies. *RHL the WHO Reproductive Health Library*, Retrieved from http://apps.who.int/rhl/pregnancy_childbirth/childbirth/routine_care/CD000198_langer_a_com/en/
- Lee, E., Mitchell-Herzfeld, S., Lownfels, A.A., Green, R., Dorabawila, V., Dumont, K.A. (2009). Reducing low birth weight through home visitation: a randomized controlled trial. *American Journal of Preventive Medicine*, 36, 154-160.
- Lincoln, Y., & Guba, E. (1985) *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Lindquist, Kurinczuk, Redshaw and Knight (2010). Experiences, utilization, and outcomes of maternity care in England among women from different socio-economic groups: Findings from the 2010 National Maternity Survey. *BJOG: An International Journal of Obstetrics and Gynecology*. DOI: 10.1111/1471-0528.13059

- Logsdon, M.C., Gagne, P., Hughes, T., Patterson, J., & Rakestraw, V. (2005). Social support during adolescent pregnancy: Piecing together a quilt. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 34, 606-614.
- Lu, Q., Lu, M.C., Schetter, C.D. (2005). Learning from success and failure in psychosocial intervention: An evaluation of low birth weight prevention trials. *Journal of Health Psychology*, 10, 185- 195.
- MacDorman, M.F., Mathews, T.J., Mohangoo, A.D., & Zeitlin, J. (2014). International comparisons of infant mortality and related factors. *National Vital Statistical Reports*. 63(5), 1-7.
- Mann, J.R., Mannan, J., Quinones, L.A., Palmer, A.A., & Torres, M. (2010). Religion, spirituality, social support and perceived stress in pregnant and post-partum Hispanic women. *Journal of Obstetrics, Gynecology and Neonatal Nursing*, 39, 645- 657.
- March of Dimes (2014). Your premature baby. Retrieved from <http://www.marchofdimes.org/baby/low-birthweight.aspx>
- Marshall, C., & Rossman, G. (2011). *Designing qualitative research*. (5th ed.). Thousand Oaks, CA: SAGE Publications, Inc.
- Martin, J.A., Hamilton, B.E., Ventura, S.J., Osterman, M.J.K., & Mathews, T.J., (2013). Births: Final data for 2011. *National Vital Statistics Reports*, 62(1), 12-13.
- Maternal and child health: Women and infants health (2014). Low birth weight and pre-term birth. *Ohio Department of Health*, 1-2

- Mathews, T.J., & MacDorman, M.F. (2013). Infant mortality statistics from the 2009 period linked birth /infant death data set. *National Vital Statistical Reports*, 61(8), 1-28.
- Merriman, S.B. (2009). *Qualitative research: A guide to design and implementation*. (2nd ed.), San Francisco, CA: Josey Bass
- Moore, T. (2008). 'Me' as the research instrument: Subject positions, feminist values and multiple 'mes'. *International Journal of Pedagogies and Learning*, 4, 31-41.
- Morgan, D.L. (1993). Qualitative content analysis: A guide to paths not taken. *Qualitative Health Research*, 3, 112-121.
- Morrow, S. L. (2005). Quality and trustworthiness in qualitative research in counseling psychology. *Journal of Counseling Psychology*, 52, 250-260.
- Mundell, J. P., Visser, M. J., Makin, J. D., Kershaw, T. S., Forsyth, B. W. C., Jeffery, B., & Sikkema, K. J. (2011). The Impact of Structured Support Groups for Pregnant South African Women Recently Diagnosed HIV Positive. *Women & Health*, 51(6), 546–565.
<http://doi.org/10.1080/03630242.2011.606356>
- Murphy, S.L., Xu, J., & Kochanek, K.D. (2013).Deaths: Final data for 2010. *National Vital Statistics Reports*, 61(4), 12-13.
- National Center for Latino Child and Family Research. (2011) *Social Support Measures Review*. Los Angeles, Lopez, M.L., & Cooper, L.
- National Healthy Start Association (2011). *How much does infant mortality cost the nation?*
Retrieved from

http://www.nationalhealthystart.org/healthy_start_initiative/how_much_does_infant_mortality_cost

- Norbeck, J.S., DeJoseph, J.F., Smith, R.T. (1996). A randomized trial of an empirically derived social support intervention to prevent low birth weight among African American women. *Social Science Medicine*, 43, 947-954.
- Nkanash-Amankra, S., Dhawain, A., Hussey, J.R., Luchok, K.J. (2010). Maternal social support and neighborhood income inequality as predictors of low birth weight and pre-term birth outcome disparities: Analysis of South Carolina Pregnancy Risk Assessment and Monitoring System Survey, 2000-2003. *Maternal and Child Health Journal*, 14, 774-785.
- Nkanash-Amankra, S., Luchok, K.J., Hussey, J.R., Watkins, K., Liu, X. (2010). Effect of maternal stress on low birth weight and pre-term birth outcomes across neighborhoods of South Carolina, 2000- 2003. *Maternal and Child Health Journal*, 14, 215-226.
- Nobile, C, G, A., Raffaele, G., Altomare, C., & Pavia, M. (2007). Influence of maternal and social factors as predictors of low birth weight in Italy. *BMC Public Health*, 7, 1-9.
- Novick, G. (2008). Is there a bias against telephone interviews in qualitative research? *Research in Nursing and Health*. 31, 391-398.
- Nylen, K.J., O'Hara, M.W., Engeldinger, J. (2013). Perceived social support interacts with prenatal depression to predict birth outcomes. *Journal of Behavioral Medicine*, 36, 427-440.

- Odell, C.D., Kotelchuck, M., Chetty, V.K., Fowler, J., Stubblefield, P.G., Orejuela, M., & Jack, B.W. (2006). Maternal hypertension as a risk factor for low birth weight infants. *Maternal and Child Health Journal*, 10, 39-46.
- Ohio Department of Health. (2014). Low birth weight and pre-term birth. *Maternal and Child Health, Women and Infants Health*, 1-2.
- Olds, D., Donelan-McCall, N., O'Brien, R., MacMillan, H., Jack, S., Jenkins, T., . . . Beeber, L. (2013). Improving the Nurse–Family Partnership in community practice. *Pediatrics*, 132, 5110-5117.
- O'Reilly, M., & Parker, N. (2013). 'Unsatisfactory saturation': A critical exploration of the notion of the saturated sample sizes. *Qualitative Research*, 2, 1-8.
- Orr, S.T. (2004). Social support and pregnancy outcome: A review of literature. *Clinical Obstetrics and Gynecology*, 47, 842- 855.
- Paton, L., Grant, J., & Tsourtos, G. (2013). Exploring mothers' perspectives of an intensive home visiting program in Australia: a qualitative study. *Contemporary Nurse*, 43, 191-200.
- Patton, M.Q. (2002). *Qualitative Research and Evaluation methods*, (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Rose, A.J. (2002). Co-rumination in the friendships of boys and girls. *Child Development*, 73, 1830-1843.
- Rotundo, G. (2011). Centering Pregnancy: The benefits of group prenatal care. *Nursing for Women's Health*, 15, 510-519.

- Russell., R.B., Green, N.S., Steiner, C.A., Meikle, S., Howse, J.L., Poschman, K., . . . Petrini, J.R. (2007). Cost of hospitalization for preterm and low birth weight infants in the United States. *Pediatrics*, 120, 1-9.
- Saad, K.A., & Fraser, D. (2010). Maternal nutrition and birth outcomes. *Epidemiologic Reviews*, 32, 5-25.
- Sandelowski, M. (1995). Focus on qualitative methods: Sample size in qualitative research. *Research in Nursing and Health*, 18, 179-183.
- Sandelowski, M. (2000). Focus on research methods: Whatever happened to qualitative description? *Nursing & Health*, 23, 334-340.
- Sandelowski, M. (2010). What's in a name? Qualitative description revisited. *Research in Nursing and Health*, 33, 77-84.
- Sanguanklin, N., McFarlin, B.L., Park, C.G., Giurgescu, C., Finnegan, L., White-Traut, R., and Engstrom, J.L. (2014). Effects of the 2011 flood in Thailand on birth outcomes and perceived social support. *Journal of the Obstetric and Gynecologic Nursing*, 43, 435-444.
- Sapountzi-Krepia, D., Tsaloglidou, A., Psychogiou, M., Lazaridou, C., and Julkunen, K.V. (2011). Mothers experience of pregnancy, labor and child birth: A qualitative study in Northern Greece. *International Journal of Nursing Practice*, 17, 583- 590.
- Schaffer, M.A., & Lia- Hoagberg, B. (1997). Effect of social support on prenatal care and health behaviors of low-income women. *Journal of Obstetric, Gynecologic and Neonatal Nursing*, 26, 433-440.

- Seeman, T., Epel, E., Gruenewald, T., Karlamangla, A., & McEwen, B.S. (2010). Socio-economic differences in peripheral biology: Cumulative allostatic load. *Annals of the New York Academy of Sciences*, 1186, 223-239.
- Shumaker, S.A., & Brownell, A. (1984). Toward a theory of social support: Closing conceptual gaps. *Journal of Social Sciences*, 40, 11-36.
- Stuart, J. J., , Bairey Merz, C. N., Bega, S. L., Miller, V. M., Ouyang, P., Shufelt, C. L., ... Rich-Edwards, J. W. (2013). Maternal recall of hypertensive disorders in pregnancy: a systematic review. *Journal of Women's Health*, 22, 37-47.
- Strayer, D.S., & Rubin, E. (2012). Intrauterine growth restriction and low birth weight. In *Rubin's Pathology: Clinicopathologic foundations of medicine*. Retrieved from <https://www.inkling.com/read/strayer-pathology-clinicopathologic-foundations/chapter-14/intrauterine-growth-restriction>
- Thorne, S., Kirkham, S.R., MacDonald-Emes, J. (1997). Interpretive description: A non-categorical qualitative alternative for developing nursing knowledge, *Research in Nursing and Health*, 20, 169-177.
- Thornton, P.L., Kieffer, E.C., Salabarria-Pena, Y., Odoms-Young, A., Willis, S.K., Kim, H., & Salinas, M.A. (2006). Weight, diet, physical-activity related beliefs and practices among pregnant and postpartum Latino women: The role of social support. *Maternal and Child Health Journal*, 1, 95-104.
- United States Department of Health and Human Services. Healthy People 2020 (2014, November 11). *Maternal, Infant and Child Health Data Details*. Retrieved from <http://www.healthypeople.gov/2020/TopicsObjectives2020/DataDetails.aspx?topicId=26>

U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. *Child Health USA 2013*. Rockville, Maryland: U.S. Department of Health and Human Services, 2013.

United States Department of Agriculture (2014). Women, Infants and Children. Retrieved from <http://www.fns.usda.gov/wic/wic-eligibility-requirements>

Wado, Y.D., Afework, M.F., & Hindin, M.J. (2014). Effects of maternal pregnancy intention, depressive symptoms, and social support on risk of low birth weight: A prospective study from Southwestern Ethiopia. *Public Library of Science One*, 9, 1-7.

Webster, J.A., Linnane, J.W.J., Dibley, L.M., Hinson, J.K., Starrenburg, S.E., & Roberts, J.A. (2000) Measuring social support in pregnancy: Can it be simple and meaningful? *Birth*, 27, 97-101.

Zachariah, R. (2009). Social support, life stress and anxiety as predictors of pregnancy complications in low income women. *Research in Nursing and Health*, 32, 391-404.

Zimet, G.D., Dahlem, N.W., Zimet, S.G., & Farley, G.K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52, 30-41.

APPENDIX A
SCREENING QUESTIONNAIRE

Age _____

Date of recent birth _____

Birth weight of the baby _____

Enrolled in WIC ____ or Medicaid ____

Annual household income _____

Total members of the family ____

APPENDIX B

Letter of Invitation to Potential Participants

I am a student doing a project on the social support experience of women who have had low birth weight babies. Social support is the perception that one is cared for by the people around them. Participation in this study is voluntary.

Will you be interested in sharing your social support experience during your last pregnancy through an interview with me? It takes approximately an hour and you may be called after the interview for follow-up questions. The interview will be recorded and will be arranged at a place and time that is convenient for you. You only have to share what you want to share and can withdraw from the study any time you want.

If you are 18 years and older and have given birth to an infant with a birth weight less than 5.5 pounds within the last nine months you are able to join the study. You will be asked to sign a consent if you decide to join the study. Your name will not be shared with anyone. If you would like to participate or have any questions about the study, please contact me at my cell phone below. You may also complete the attached form to include your contact information.

913-850-0467

Thank you for your consideration

Doncy Eapen, M.S.N, APRN

University of Kansas School of Nursing

APPENDIX C**CONTACT INFORMATION FOR STUDY INVITEES**

Initial _____

Contact Telephone Number _____

Best time to contact _____

Appendix D

Research Consent

TITLE: A study of social support in pregnancy of women with low birth weight babies

You are being asked to join a research study. You are being asked to take part in this study because you have recently given birth to a low birth weight baby. You do not have to participate in this research study. The main purpose of this research is to learn about social support you got from friends and family during your pregnancy. Social support is defined as feeling cared for or receiving aid or help from others. By learning about this support we may better help more women to get the support they need during pregnancy. Research studies may or may not benefit the people who take part.

Research is voluntary, and you may change your mind at any time. There will be no penalty to you if you decide not to take part, or if you start the study and decide to stop early. This consent form tells you what you have to do if you are in the study. It also explains the possible risks and benefits. Please read the form carefully and ask as many questions as you need to, before deciding about this research.

You can ask questions now or anytime during the study. The researchers will tell you if they get any new information that might cause you to change your mind about taking part. This research study is part of graduation requirements for the KU School of Nursing PhD program. Dr. Karen Wambach is the faculty mentor to Doncy Eapen who is conducting the study. A total of about 20 women aged 18 years or older will be interviewed for the study.

BACKGROUND

Low birth weight is a major health problem in the United States leading to infant health issues. Social support from others during pregnancy has been found to have some connection with a healthy pregnancy and a healthy baby. For example, women who have good support from family and friends were found to have healthy babies with higher birth weight. However, little is known about how social support affects the health of a baby. Very little research has been done that asks women with low birth weight babies to describe their social support during their pregnancy.

PURPOSE

By doing this study, the researcher hopes to learn about social support of women with the goal of finding what kinds of social support was received by women who had low birth weight babies. Findings from the research could be used to design programs, education, and counseling that address the concerns and needs related to social support of pregnant women.

PROCEDURES

If you are eligible and decide to participate in this study, your participation will last approximately 1-2 hours for the interview and possibly another hour for a follow-up contact. Your taking part will involve:

- An interview with the researcher asking questions related to your social support experiences during your pregnancy

- The researcher will arrange a time and place that is convenient for you for the interview.
- If an in-person interview is not possible, a telephone interview can be arranged.
- During interview, the researcher will ask questions related to your social support.
- You are encouraged to provide detailed answers to the questions based on your social support experience.
- The researcher will record the interview with an electronic device during the interview.
- A follow-up interview may be asked of you to qualify or seek more information and review the transcribed information. The interviews will be recorded and then written out by the researcher. Your identity will be held in confidence by using a numbered code for your interview write-up and only known to the researcher and her mentor.
- All recordings will be destroyed after the analysis of the data is completed.
- The write-ups of the recordings from each interview will be kept in a secured file for 5 years as required by the research review board and then destroyed.
- You will be asked to fill out a form that will ask for your age, ethnic background and pregnancy history.

RISKS

You may feel uncomfortable discussing your social support experiences. If at any point you are not comfortable you may skip an interview question or stop taking part all together. In case you feel anxious or sad, the researcher will stop the interview. You will also be assisted to obtain help from a health care provider as needed. Your information will be kept secret and confidential although there is some risk that the information might be released. Doncy Eapen under the guidance of Dr Karen Wambach will be working on the information that you share. In order to minimize these risks, your information will be kept confidential. You are free to give only the information you choose to and will be kept only by the researcher.

NEW FINDINGS STATEMENT

You will be told about anything new that might change your decision to be in this study. You may be asked to sign a new consent form if this occurs.

BENEFITS

You will not directly benefit from taking part in this research study. The researcher hopes that what we learn in this study will help nurses and other health care providers better understand the social support needs of pregnant women.

ALTERNATIVES

Taking part in this study is voluntary. Deciding not to take part will have no effect on your relationship with your health care provider.

COSTS

There is no cost for being in the study.

PAYMENT TO SUBJECTS

As a thank you for your time you will be offered a baby photo album (\$10 value).

INSTITUTIONAL DISCLAIMER STATEMENT

If you think you have been harmed as a result of taking part in research at the University of Kansas Medical Center (KUMC), you should contact the Director, Human Research Protection Program, Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160. Under certain conditions, Kansas state law or the Kansas Tort Claims Act may allow for payment to persons who are injured in research at KUMC.

CONFIDENTIALITY

The researcher will protect your information, as required by law. Absolute confidentiality cannot be guaranteed because persons outside the study team may need to look at your study records. The researchers may publish the results of the study. If they do, they will only discuss group results. Your name will not be used in any publication or presentation about the study.

QUESTIONS

Before you sign this form, Doncy Eapen or other members of the research team should answer all your questions. You can talk to the researcher if you have any more questions, suggestions, concerns or complaints after signing this form. If you have any questions about your rights as a research subject, or if you want to talk with someone who is not involved in the study, you may call the Human Subjects Committee at (913) 588-1240. You may also write the Human Subjects Committee at Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160. You may contact Doncy Eapen at 913-850-0467 or Dr Karen Wambach, the dissertation advisor at 913-588-1639 for any questions that you may have during this study.

SUBJECT RIGHTS AND WITHDRAWAL FROM THE STUDY

You may stop being in the study at any time. Your decision to stop will not prevent you from getting treatment or services from your healthcare provider. The entire study may be discontinued for any reason without your consent by the investigator conducting the study.

CONSENT

Doncy Eapen has given you information about this research study. She has explained what will be done and how long it will take. Any inconvenience, discomfort or risks that may be experienced during this study has also been explained

By signing this form, you say that you freely and voluntarily consent to take part in this research study. You have read the information and had your questions answered.

You will be given a signed copy of the consent form to keep for your records.

Print Participant's Name

Signature of Participant

Time

Date

Print Name of Person Obtaining Consent

Signature of Person Obtaining Consent

Date

APPENDIX E

Individual Interview Guide

1. Tell me about your pregnancy? (Probe as indicated—how did you feel about your pregnancy?)
2. What does social support mean to you?
3. How did others around you feel about your pregnancy? (Significant other, family, friends, co-workers, etc.) (Probe as indicated)
4. What were some of the positive experiences of your pregnancy? (Probe: Tell me more about those experiences)
5. What were some of the difficulties you experienced during your pregnancy? (Probe: Tell me more...)
6. Tell me about your baby's birth? (when, how far along were you, labor, birth difficulties)
7. What was it like to have a low birth weight baby?
8. What were some of the everyday needs that you experienced during your pregnancy (i.e. transportation, fixing meals, child care, health insurance, prenatal care, etc.)?
9. Who was it that helped or supported you with these needs during your pregnancy? (Family, friends, co-workers, neighbors, etc.)?
10. What were some of the more personal or emotional needs that you experienced during your pregnancy (i.e. having someone available to talk or be with you if you felt alone, upset, anxious, or down, etc.)?
11. Who was it that helped or supported you with these needs during your pregnancy? (Family, friends, co-workers, neighbors, etc.)?

12. Can you describe a time during your pregnancy that you were in need of basic everyday living needs such as having enough food, clothing, housing, or financial assistance? Who was there to help you with these needs?
13. Who did you talk to if you had questions about your health during your pregnancy?
14. Tell me about the support you received during your pregnancy from your husband, your family, your friends, and your health care providers?
15. What difficulties did you face in receiving support during pregnancy?
16. Tell me how satisfied you were with the support that you received during your pregnancy.
17. What might have enhanced /improved your support during pregnancy?
18. Is there anything else that you would like to share that we have not discussed?

APPENDIX F**Demographic Information**

Please check one answer for each question unless otherwise specified.

1) Age _____

2) Marital Status

Single (never married) _____

Married _____

Living with partner or father of the baby _____

Separated _____

Divorced _____

Widowed _____

3) Education

What is the highest level of education completed?

4) Employment Status

Employed fulltime _____

Employed part time _____

Stay at home mom _____

Student _____

5) If employed, what is your annual income?

\$19,999 or less per year _____

\$20,000 - 39,999 per year _____

\$40,000 - 59, 999 per year _____

6) Ethnicity/Race

American Indian/ Alaskan Native _____

Asian _____

Black/ African American _____

Hispanic/Latino _____

Native Hawaiian and other Pacific Islander _____

White/ Caucasian _____

Other_____ Please specify_____

Answer the following questions related to your most recent pregnancy

7) Birth weight of the baby_____

8) Sex of the baby_____

9) Type of delivery_____

10) Gestational Age at delivery---

Less than 37 weeks_____ Greater than 37 weeks_____

APPENDIX G

Themes with Constituent Categories and Definitions

Theme 1-Mother's Experience of Pregnancy and Perceived Social Support.

Mother's feelings and readiness for the pregnancy. Mothers' description of how planned or unplanned their pregnancies were and the overall specific feeling mothers had about their pregnancy.

Mother's perceptions and satisfaction with social support during pregnancy. Mothers' understanding of social support and description of overall satisfaction of support received during pregnancy.

Theme 2 Multiple Challenges Faced by Mothers During Pregnancy.

Physical challenges. The physical illness during pregnancy which includes minor sickness as a result of pregnancy and major health issues and complications that occur during pregnancy.

An emotional roller coaster. Emotional experiences and challenges during pregnancy ranging from mood swings, anxiety to major panic and depressive episodes.

Work related experiences. This includes mothers work experiences, working hours and issues at work place.

Life's financial burdens. Mothers experience of daily and basic living and financial needs, issues, difficulties experienced, lifestyle or habits during pregnancy and the impact/influence on their pregnancy

Reactions and concerns of low birth weight baby. Mothers' description of her concerns and expectations related to the health of the baby during pregnancy and her emotional reactions to the birth of the low birth weight baby.

Theme 3 Availability of Essential Supports for Mothers During Pregnancy.

Relationship and availability of the father of the baby. Supportiveness and non-supportiveness of the father of the baby during pregnancy and delivery, including emotional, financial, informational and daily living needs support. Also includes communication and dynamics of relationship with baby's father and the perception of its impact by the mother.

Family relationship and availability during pregnancy. Relationship, communication and availability of family members including parents, siblings, in-laws and second degree relatives during pregnancy and their positive and negative influences.

Friends and other support persons during pregnancy. Availability and non-availability of friends, co-workers, neighbors, religious leaders and groups, and other significant people; their reactions towards pregnancy; and the types of support received from them during pregnancy.

Health care experiences and provider support during pregnancy. Mothers' description of her experience with health care including availability of health care; issues with obtaining health care; compliance with prenatal care and management of health related issues of the mother and the baby during pregnancy and delivery and her description of her relationship and support she received from health care professionals including nurses, doctors, and social workers.